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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Carrie Thompson Examiner #: 79241 Date: 1/22/07
Art Unit: 1774 Phone Number 30 571-272-783 Serial Number: 10/801,546
Mail Box and Bldg/Room Location: Rem 10D37 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Fluorescent Material, organic electroluminescence

Inventors (please provide full names): Wataru Sotoyama

Earliest Priority Filing Date: 8/29/03

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please do a search on all claims

(A) formula 1 wherein two or more of $R_1 - R_{12}$ each have a structure with is represented by formula 2.

(B) formula 1 plus claims 19. layer with formula 1 and aromatic amine

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Searcher: EP
Searcher Phone #:
Searcher Location:
Date Searcher Picked Up:
Date Completed: 1-24-07
Searcher Prep & Review Time: 10
~~Clerical Prep Time:~~
Online Time: 90

Type of Search

NA Sequence (#)
AA Sequence (#)
Structure (#) 6 (subsets)
Bibliographic (and)
Litigation
Fulltext
Patent Family
Other

Vendors and cost where applicable

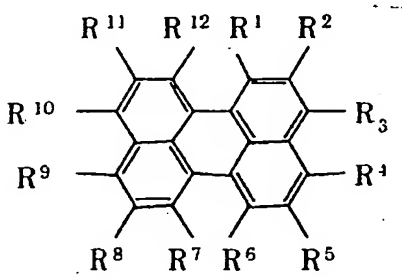
STN $402.17
Dialog
Questel/Orbit
Dr.Link
Lexis/Nexis
Sequence Systems
WWW/Internet
Other (specify)

PTO-1590 (8-01)

AMENDMENTS TO THE CLAIMS

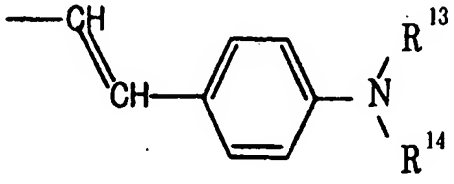
This listing of claims replaces all prior versions of claims in the application.

1. (Currently Amended): A fluorescent material comprising ~~either one or both of~~ a perylene compound represented by formula (1) below ~~and an anthanthrene compound represented by formula (101) below~~:



...(1)

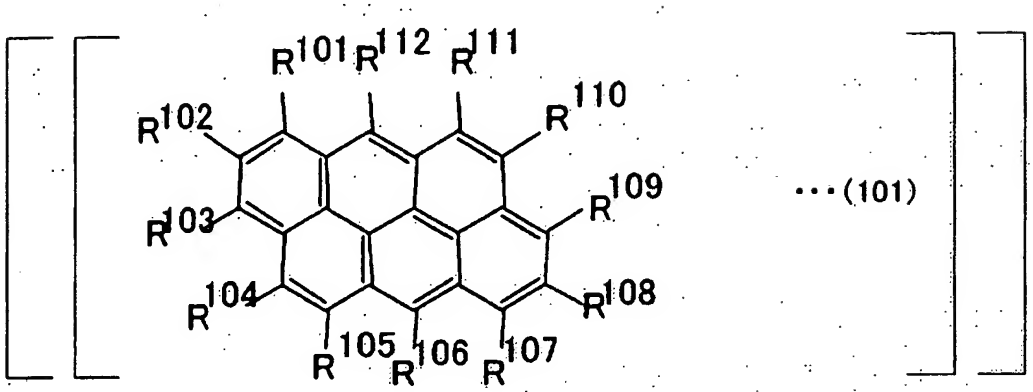
(in formula (1), two or more of R^{1-12}, each, have a structure represented by formula (2) below, with the rest being hydrogen),



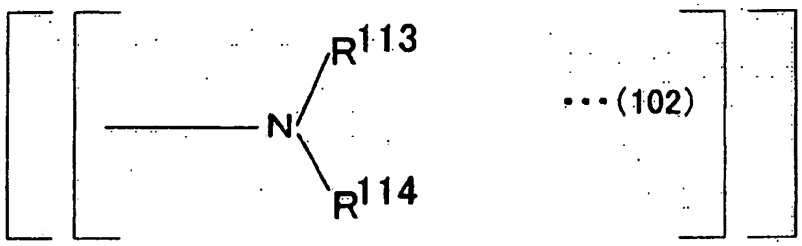
...(2)

(in formula (2), R^{13} and R^{14} are, independently from each other, an aromatic group that may be substituted, or an aliphatic group that may be substituted, wherein R^{13} and R^{14} may be bonded with

each other, directly or via a bonding group), and



(in formula (101), four of $R^{101-112}$, each, have a structure represented by formula (102) below, with the rest being hydrogen),



(in formula (102), R^{113} and R^{114} are, independently from each other, a phenyl or naphthyl group that has a substituent group selected from the class consisting of an aryl group, an alkoxy group, an aryloxy group, a dialkylamino group and a diarylamino group, and the substituent group may also be substituted, wherein R^{113} and R^{114} may be bonded with each other, directly or via a bonding group).

2. (Original): A fluorescent material according to claim 1, wherein two of said R^{1-12} has a

structure represented by formula (2), with the rest being hydrogen.

3. (Cancelled).

4. (Currently Amended): A fluorescent material according to claim 2, wherein said R^{13} and R^{14} are, independently from each other, a phenyl or naphthyl group that may be substituted.

5. (Previously Presented): A fluorescent material according to claim 4, wherein said phenyl group or naphthyl group, of R^{13} and R^{14}, has a substituent group selected from the class consisting of an alkyl group, an aryl group, an alkoxy group, an aryloxy group, a dialkylamino group and a diarylamino group, and the substituent group may also be substituted.

6. (Cancelled).

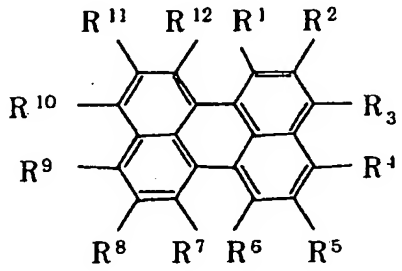
7. (Cancelled).

8. (Previously Presented): A fluorescent material according to claim 4 for use as an organic light-emitting layer forming material for an organic electroluminescent element.

9. (Original): A fluorescent material according to claim 8 for use as an organic light-emitting layer forming material in the capacity of a host or a guest for an organic electroluminescent element.

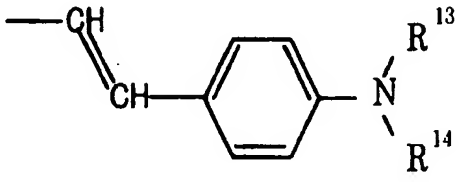
10. (Previously Presented): An organic electroluminescent element having an organic light-emitting layer between an anode and a cathode, said organic light-emitting layer comprising a fluorescent material according to one of claims 1, 2, 4 and 5.

11. (Original): An organic electroluminescent element having an organic light-emitting layer between an anode and a cathode, said organic light-emitting layer using a perylene compound represented by formula (1) below as a fluorescent material:



...(1)

(in formula (1), two of R^{1-12}, each, have a structure represented by formula (2) below, with the rest being hydrogen),



...(2)

(in formula (2), R^{13} and R^{14} are, independently from each other, an aromatic group that may be substituted, or an aliphatic group that may be substituted, wherein R^{13} and R^{14} may be bonded with each other, directly or via a bonding group).

12. (Original): An organic electroluminescent element according to claim 11, wherein said R^{13} and R^{14} are, independently from each other, a phenyl or naphthyl group that may be substituted.

13. (Original): An organic electroluminescent element according to claim 12, wherein, said phenyl group or naphthyl group has a substituent group selected from the class consisting of an alkyl group, an aryl group, an alkoxy group, an aryloxy group, a dialkylamino group and a diarylamino group, and the substituent group may also be substituted.

14. (Cancelled).

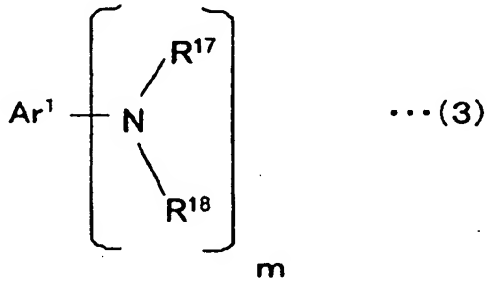
15. (Cancelled).

16. (Cancelled).

17. (Original): An organic electroluminescent element according to claim 10, wherein said fluorescent material is an organic light-emitting layer forming material in the capacity of a host or a guest.

18. (Currently Amended): An organic electroluminescent element according to one of claims 11 to [[16]] 13, wherein said fluorescent material is an organic light-emitting layer forming material in the capacity of a host or a guest.

19. (Currently Amended): An organic electroluminescent element according to claim 10, wherein said organic light-emitting layer comprises a mixture of said fluorescent material and an aromatic amine compound represented by formula (3) below as an organic light-emitting layer forming material:

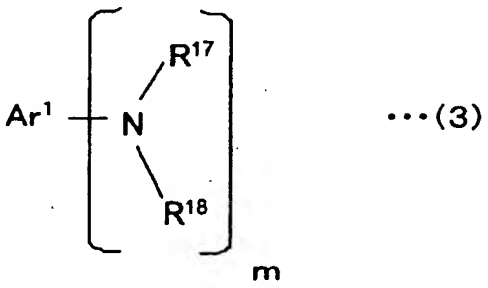


...(3)

~~(in formula (102), R^{113} and R^{114} are, independently from each other, an aromatic group that may be substituted, or an aliphatic group that may be substituted, wherein R^{113} and R^{114} may be bonded with~~

~~each other, directly or via a bonding group~~ wherein Ar^1 is an aromatic group with a bonding valency of 2, 3 or 4 that may be substituted; R^{17} and R^{18} are, independently from each other, a monovalent aromatic group that may be substituted; and m is an integer of 2-4).

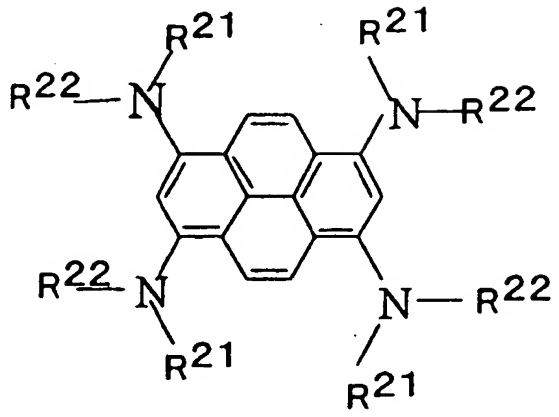
20. (Currently Amended): An organic electroluminescent element according to one of claims 11 to [[16]] 13, wherein said organic light-emitting layer comprises a mixture of said fluorescent material and an aromatic amine compound represented by formula (3) below as an organic light-emitting layer forming material:



$\cdots(3)$

(wherein Ar^1 is an aromatic group with a bonding valency of 2, 3 or 4 that may be substituted; R^{17} and R^{18} are, independently from each other, a monovalent aromatic group that may be substituted; and m is an integer of 2-4).

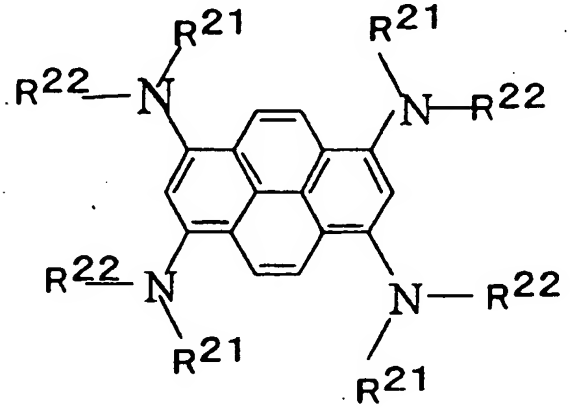
21. (Original): An organic electroluminescent element according to claim 19, wherein said aromatic amine compound represented by formula (3) is a tetra(diarylamino)-substituted pyrene represented by formula (4) below:



...(4)

(wherein R^{21} and R^{22} are, independently from each other, a monovalent aromatic group).

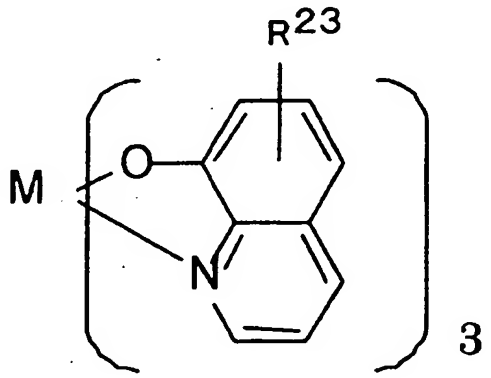
22. (Original): An organic electroluminescent element according to claim 20, wherein said aromatic amine compound represented by formula (3) is a tetra(diarylamino)-substituted pyrene represented by formula (4) below:



...(4)

(wherein R^{21} and R^{22} are, independently from each other, a monovalent aromatic group).

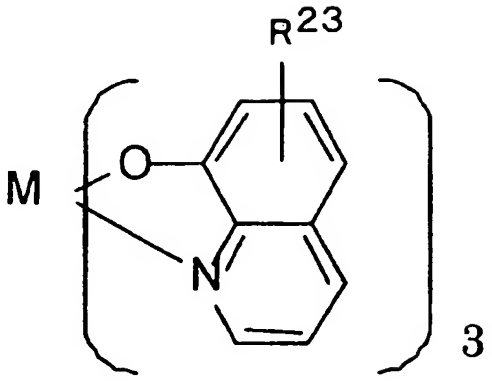
23. (Original): An organic electroluminescent element according to claim 10, wherein said organic light-emitting layer comprises, as an organic light-emitting layer forming material, a mixture of said fluorescent material and a hydroxyquinoline complex represented by formula (5) below:



...(5)

(wherein R^{23} is hydrogen or an alkyl group that may be substituted; and M is a metal having a valency of 3).

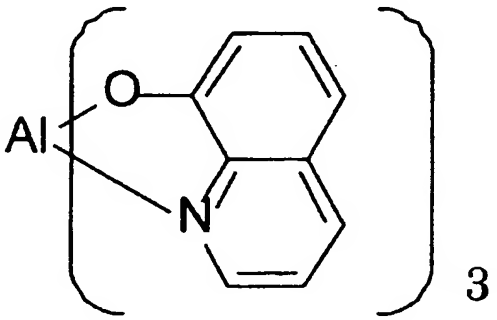
24. (Currently Amended): An organic electroluminescent element according to one of claims 11-[[16]] 13, wherein said organic light-emitting layer comprises, as an organic light-emitting layer forming material, a mixture of said fluorescent material and a hydroxyquinoline complex represented by formula (5) below:



...(5)

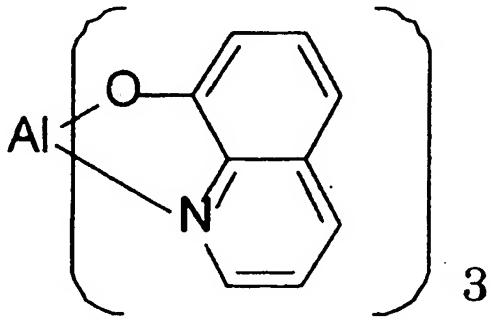
(wherein R^{23} is hydrogen or an alkyl group that may be substituted; and M is a metal having a valency of 3).

25. (Original): An organic electroluminescent element according to claim 23, wherein said hydroxyquinoline complex is an aluminum hydroxyquinoline complex represented by formula (6) below:



...(6)

26. (Original): An organic electroluminescent element according to claim 24, wherein said hydroxyquinoline complex is an aluminum hydroxyquinoline complex represented by formula (6) below:



...(6)

27. (Original): An organic electroluminescent element according to claim 10, wherein said organic light-emitting layer consists of a single layer of a fluorescent material.

28. (Currently Amended): An organic electroluminescent element according to one of claims 11 to [[16]] 13, wherein said organic light-emitting layer consists of a single layer of a fluorescent material.

29. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 10.

30. (Currently Amended): An organic electroluminescent display using an organic electroluminescent element according to one of claims 11 to [[16]] 13.

31. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 18.

32. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 20.

33. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 22.

34. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 24.

35. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 26.

36. (Original): An organic electroluminescent display using an organic electroluminescent element according to claim 28.

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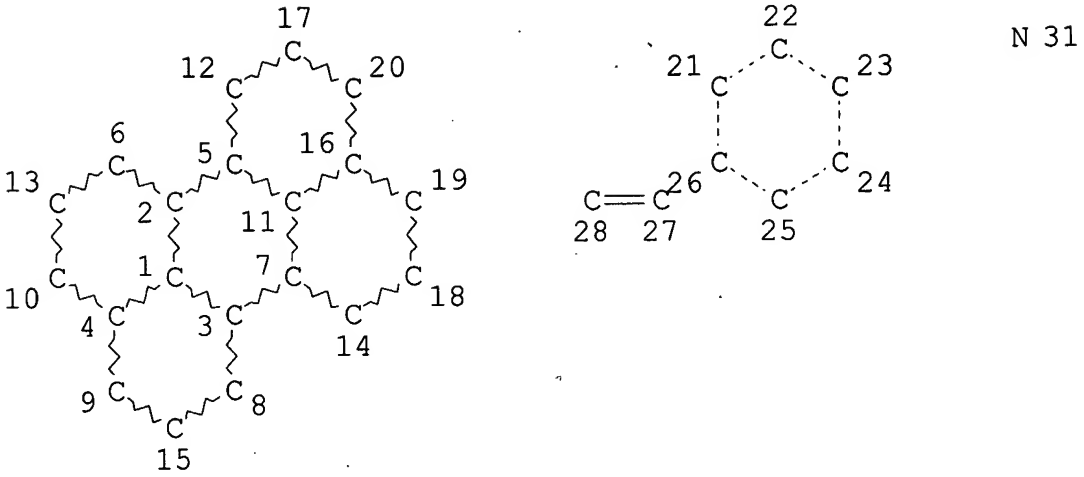

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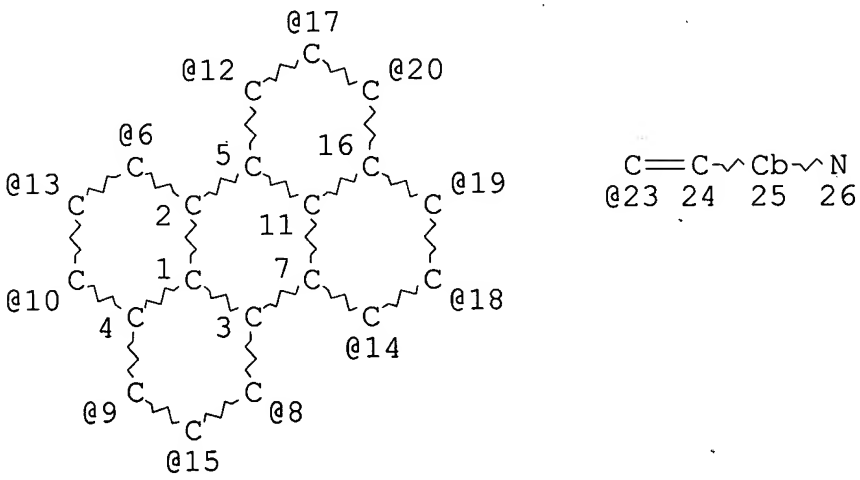

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=> D L36 1 CBIB ABS HITSTR HITIND

L36 ANSWER 1 OF 1 ZCA COPYRIGHT 2007 ACS on STN
142:268913 Fluorescent material, organic electroluminescent element and organic electroluminescent display. Sotoyama, Wataru (Fujitsu Limited, Japan). U.S. Pat. Appl. Publ. US 2005048313 A1 20050303, 25 pp. (English). CODEN: USXXCO. APPLICATION: US 2004-801546 20040317. PRIORITY: JP 2003-305621 20030829.

AB The invention refers to an org. electroluminescent element having an org. light-emitting layer between an anode and a cathode, wherein the org. light-emitting layer comprises, as an org. light-emitting layer forming material, a fluorescent material comprising a perylene compd. I [R1-12 = H or -CH:CH-Ph-N(R13)R14, wherein two or more are not H; R13,14 = (un)substituted arom. or aliph. and may be bonded to each other] and/or an anthanthrene compd. II [R101-112 = H or N(R113)R114, wherein 4 or more are not H; R113,114 = (un)substituted arom. or aliph. and may be bonded to each other]. A fluorescent material that emits red light with a high color purity and a high luminous efficiency-when used singly or as a guest, an org. EL element having a high luminous efficiency, and a high-performance org. EL display having a high luminous efficiency are realized.

IT **845896-91-5P 845896-93-7P 845896-99-3P**
845897-00-9P

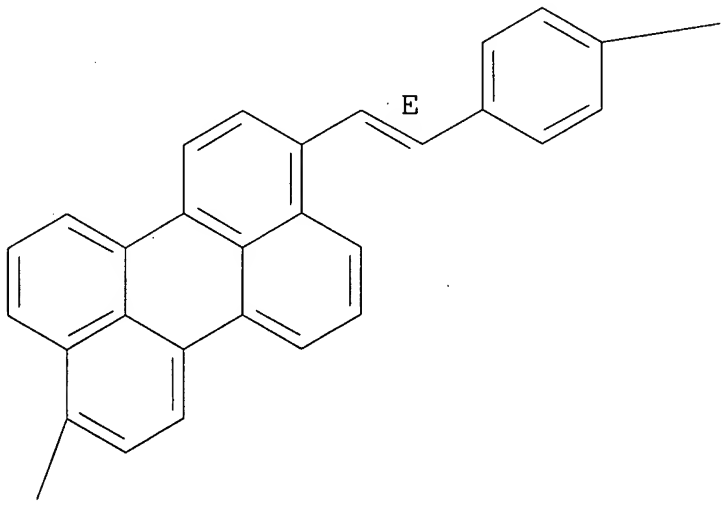
(fluorescent material, org. electroluminescent element and org. electroluminescent display using perylene and anthanthrene derivs.)

RN 845896-91-5 ZCA

CN Benzenamine, 4,4'-[3,9-perylenediyldi-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



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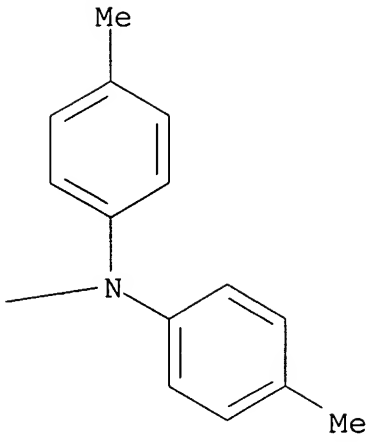

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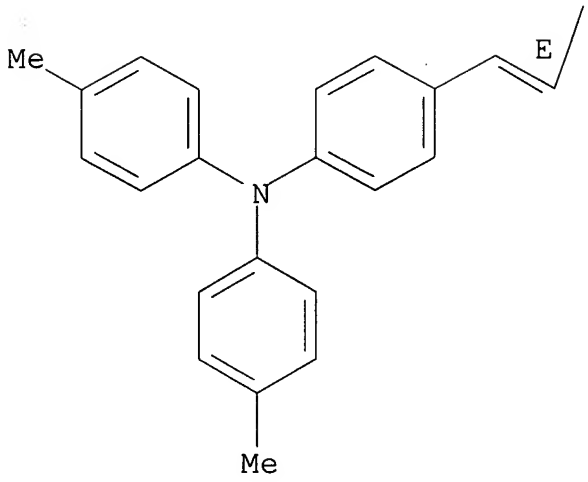

RN 845896-93-7 ZCA
CN Benzenamine, 4,4'-[3,9-perylenediyldi-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

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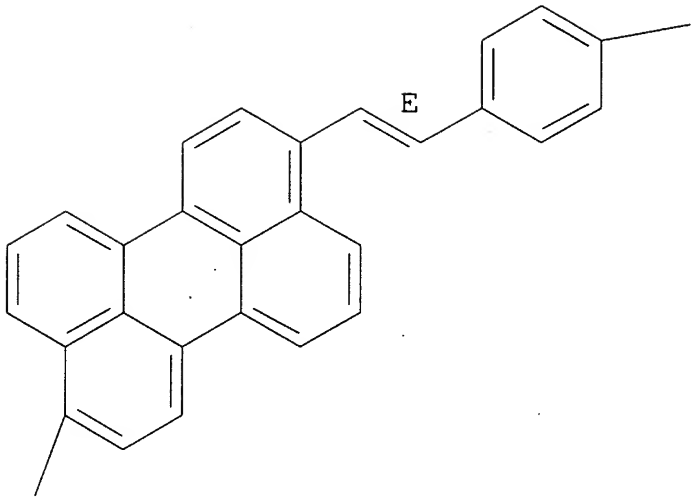
PAGE 1-A



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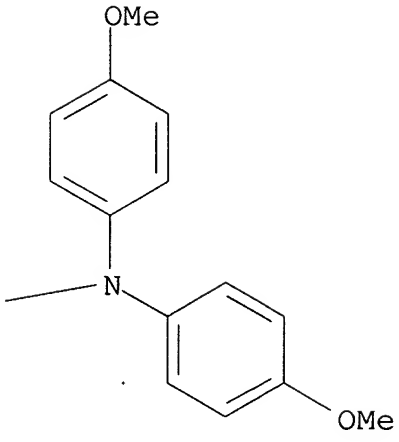

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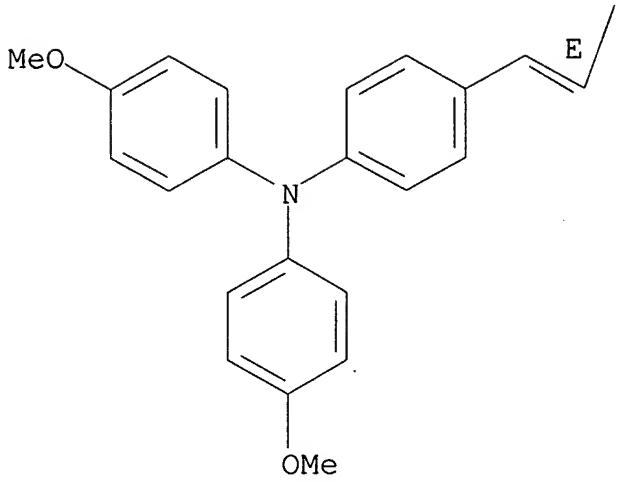
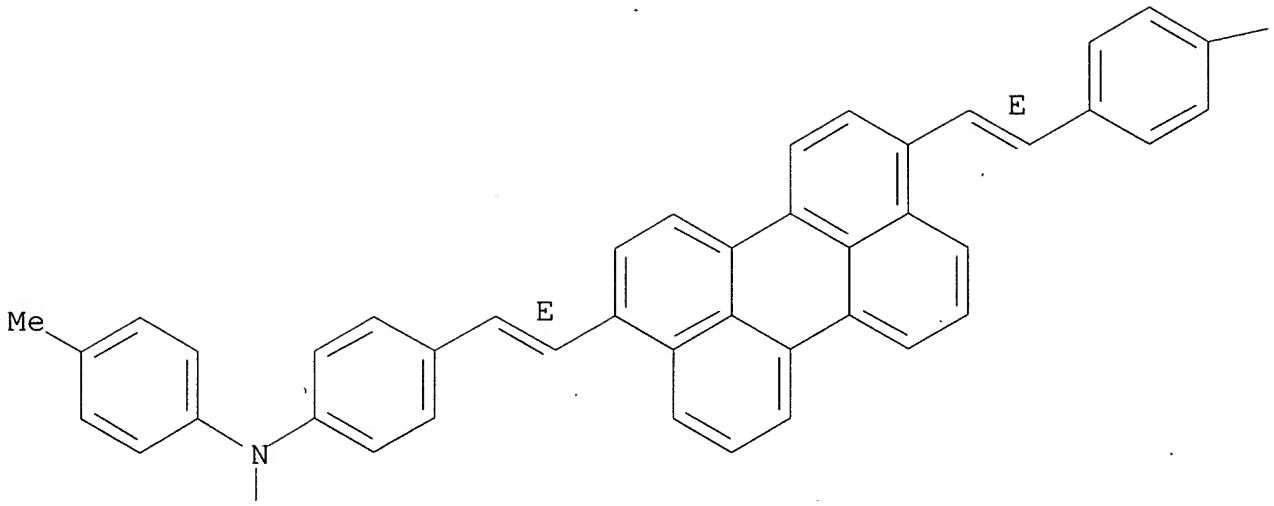


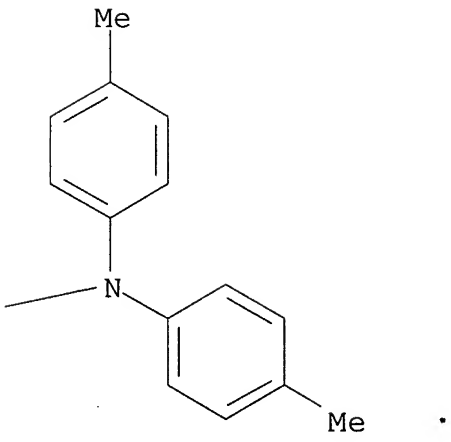
RN 845896-99-3 ZCA
CN Benzenamine, 4,4'-[3,10-perylenediyldi-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

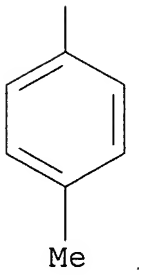
PAGE 1-A



PAGE 1-B



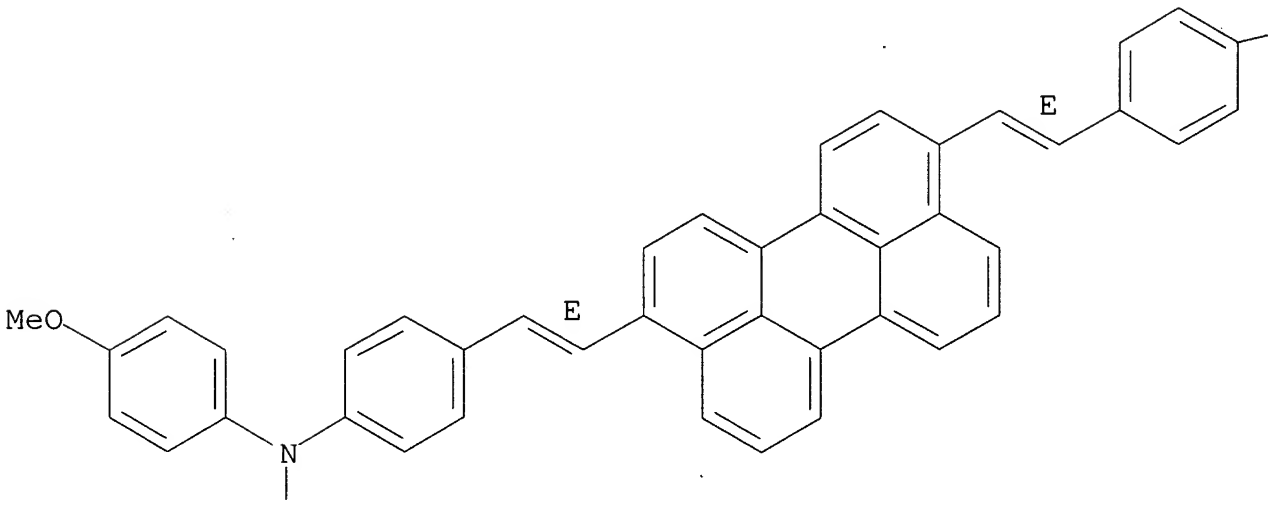
PAGE 2-A



RN 845897-00-9 ZCA
CN Benzenamine, 4,4'-[3,10-perylenediyldi-(1E)-2,1-ethenediyl]bis[N,N-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

PAGE 1-A



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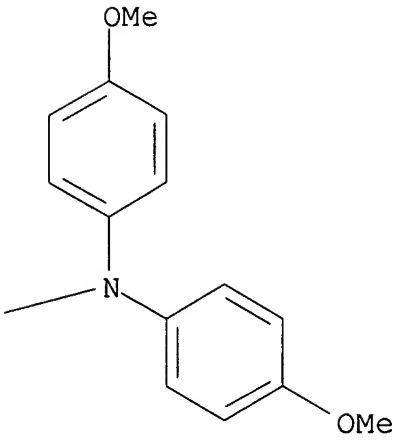

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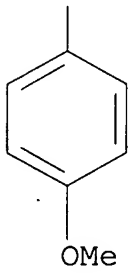

IC ICM H05B033-14
ICS C09K011-06
INCL 428690000; 428917000; 313504000; 313506000; 252301160
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 74
IT **845896-91-5P 845896-93-7P** 845896-94-8P
845896-97-1P 845896-98-2P **845896-99-3P**
845897-00-9P
(fluorescent material, org. electroluminescent element and org. electroluminescent display using perylene and anthanthrene derivs.)

=> D L37 1-9 CBIB ABS HITSTR HITIND

L37 ANSWER 1 OF 9 ZCA COPYRIGHT 2007 ACS on STN

↓↓↓ (Looked pretty junky structurally from here on out.)

140:245588 Fluorescent glycosides and methods for their use. Kool, Eric T.; Gao, Jianmin (The Board of Trustees of the Leland Stanford Junior University, USA). PCT Int. Appl. WO 2004019002 A2 20040304, 50 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2003-US26482 20030822. PRIORITY: US 2002-405549P 20020823.

AB Fluorescent glycosides contg. arom. hydrocarbon groups are useful in labeling and detection methods for a wide array of chem. and biol. mols. Assembly of multiple analogs to form polyfluors affords fluorescence properties that are different from the properties of the component analogs. This allows for the design and use of combinatorial libraries of mols. displaying widely varying fluorescence colors.

IT **473906-68-2 473906-70-6 667457-99-0**
667458-00-6 667458-02-8 667458-03-9
667458-04-0 667458-15-3 667458-16-4
667458-17-5 667458-18-6 667458-20-0
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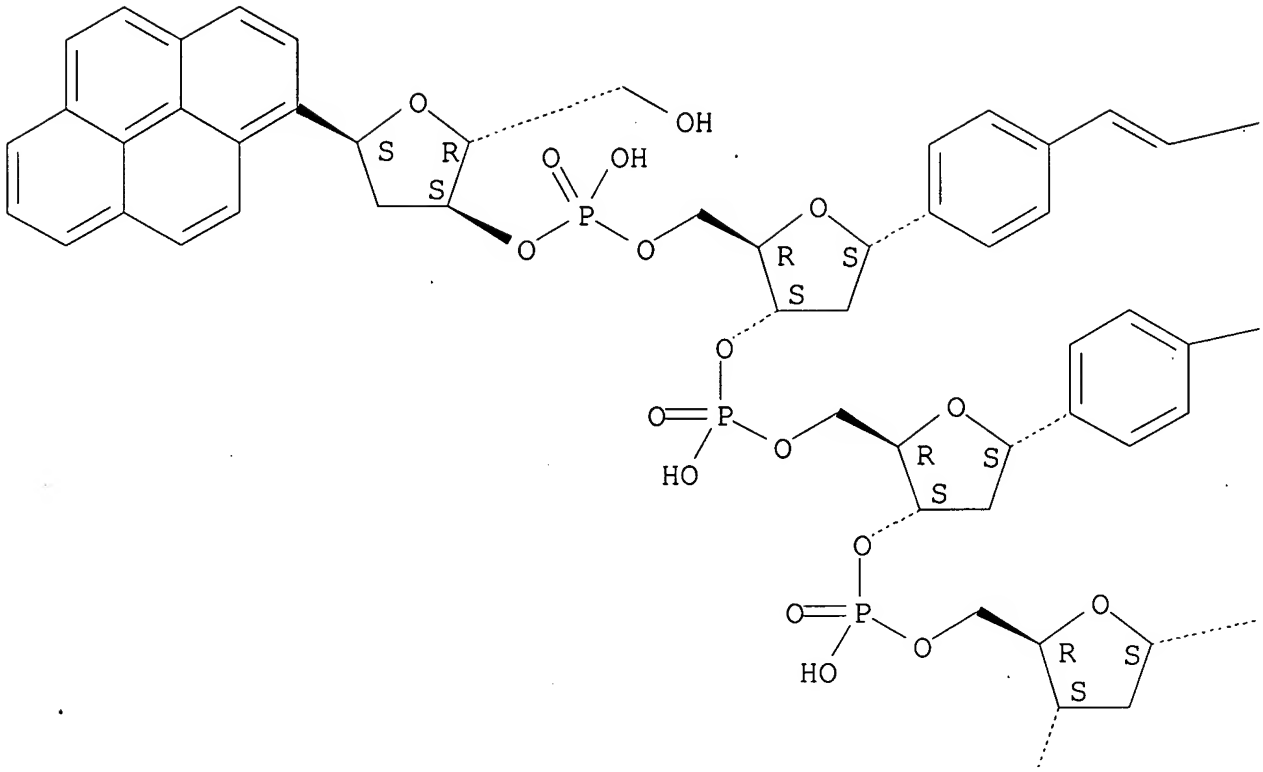
667458-24-4 667458-25-5 667458-26-6
667458-27-7 667458-28-8 667458-29-9
667458-30-2 667458-32-4 667458-33-5
667458-35-7 667458-37-9 667458-39-1
667458-40-4 667458-42-6
(fluorescent glycosides as labels for chem. and biol. mols.)

RN 473906-68-2 ZCA

CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



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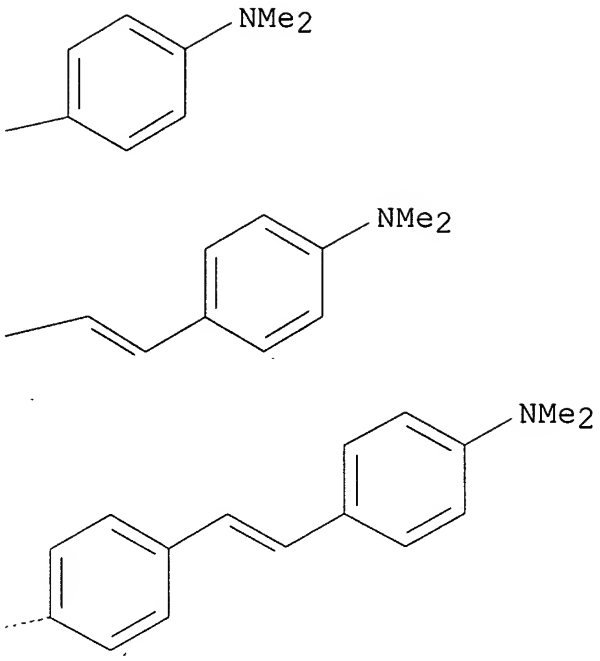
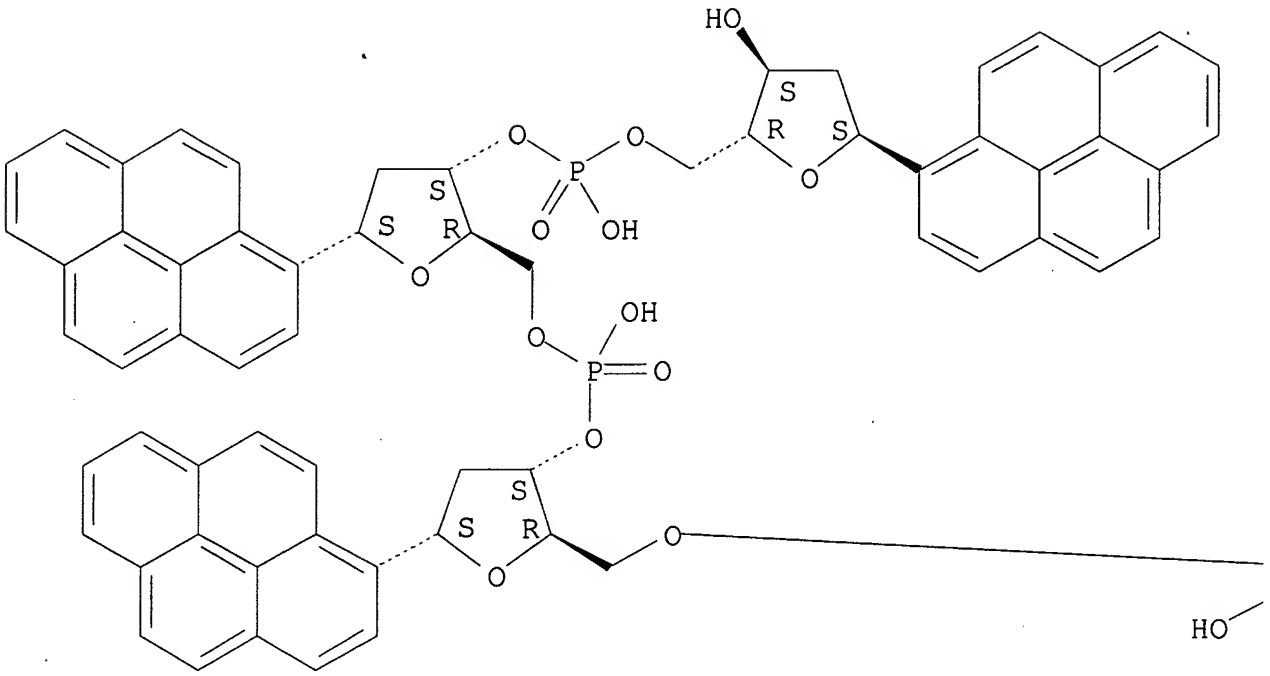


PAGE 2-A

RN 473906-70-6 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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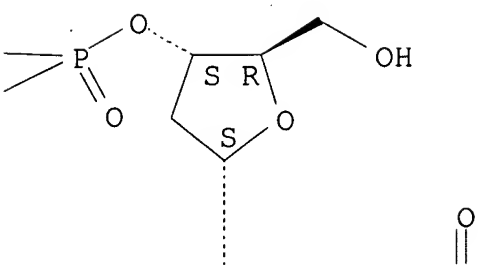

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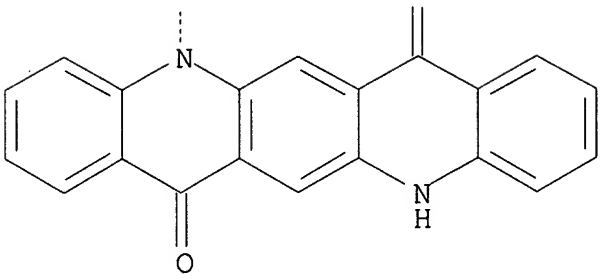
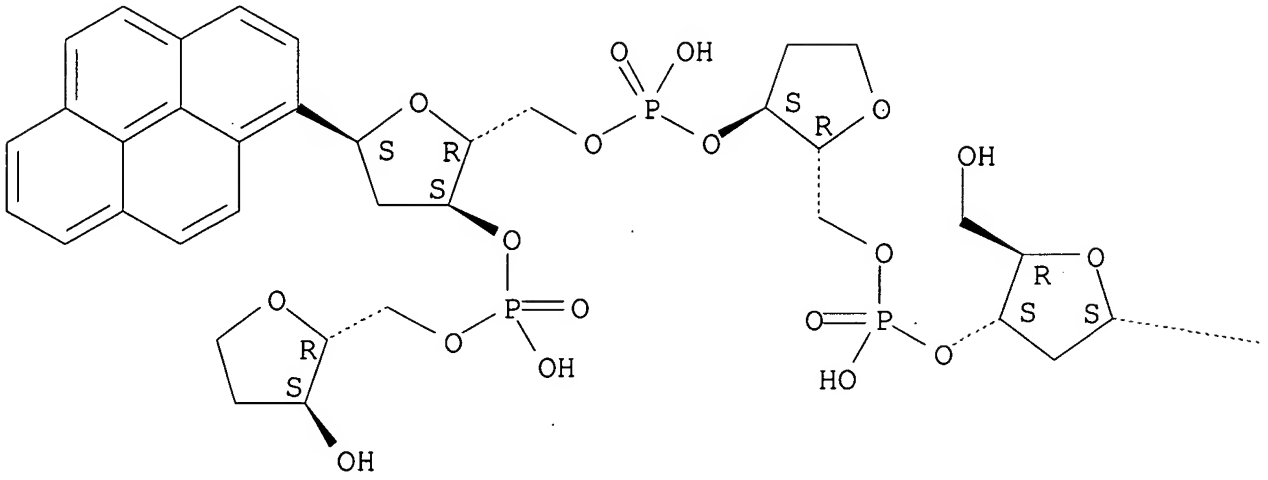


RN 667457-99-0 ZCA
CN Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



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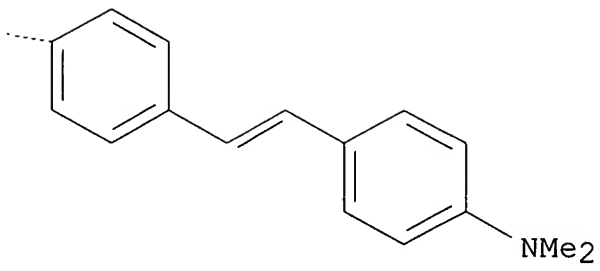
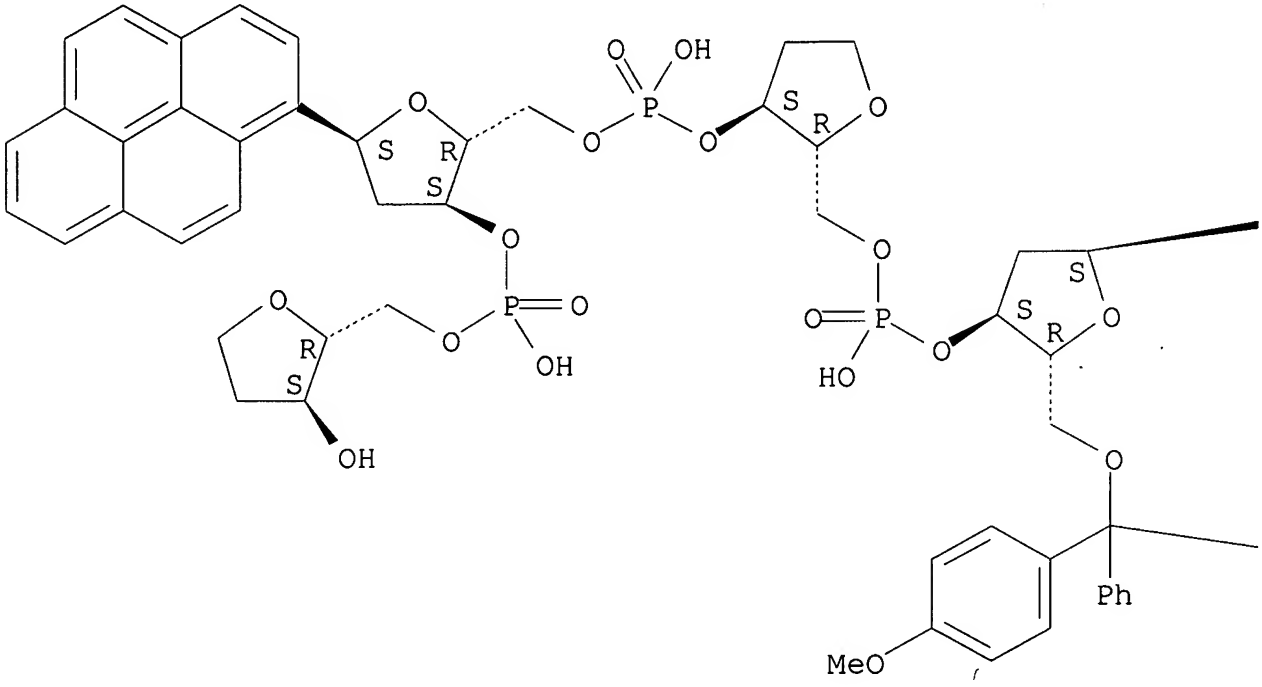


RN 667458-00-6 ZCA
CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]pheny

l]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



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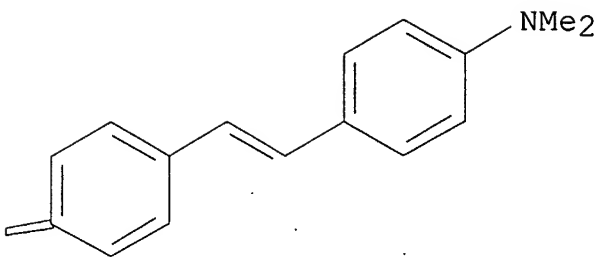
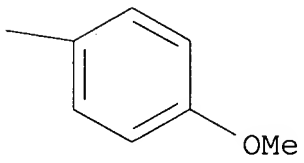
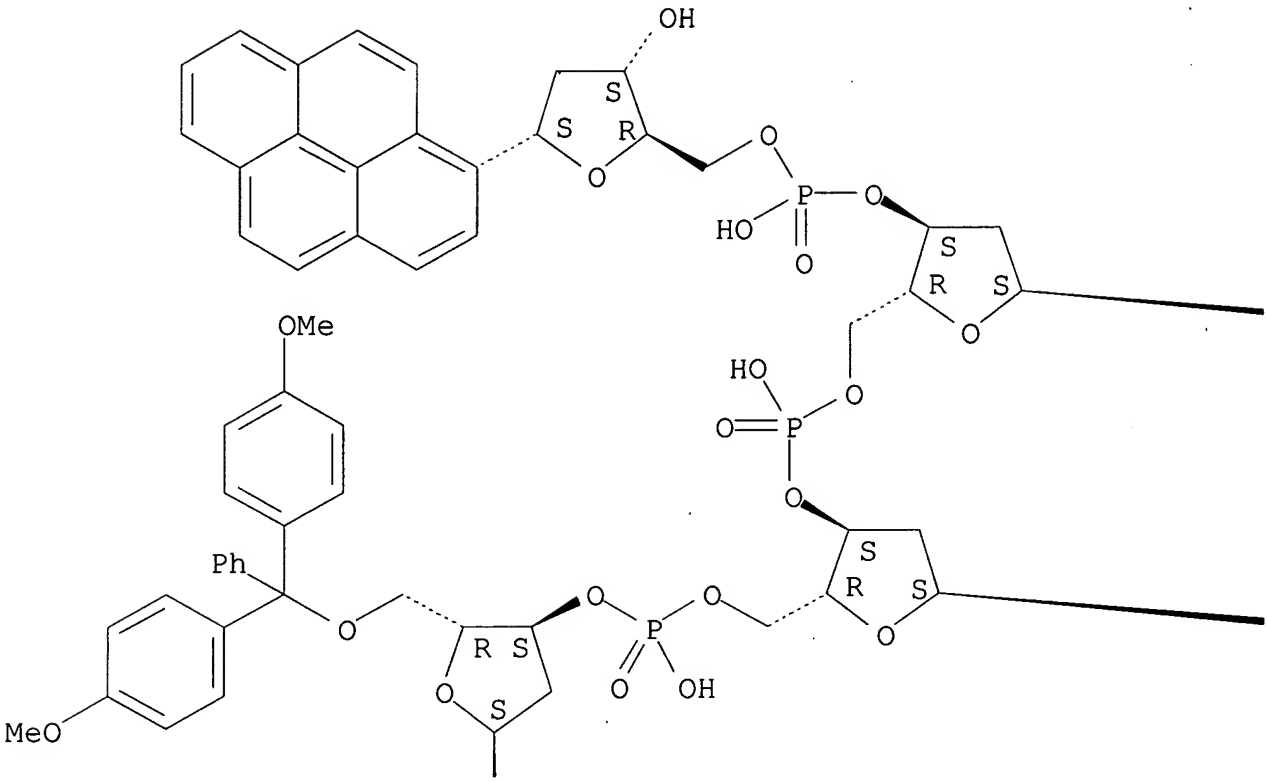




RN 667458-02-8 ZCA
CN α-Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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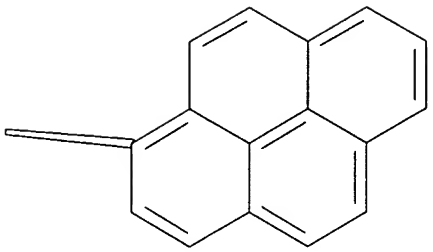

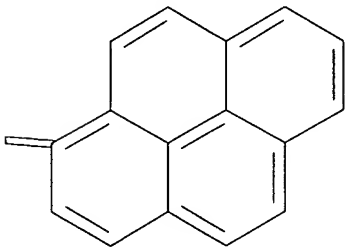

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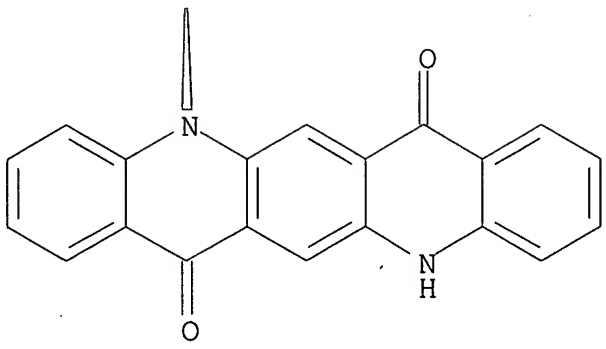

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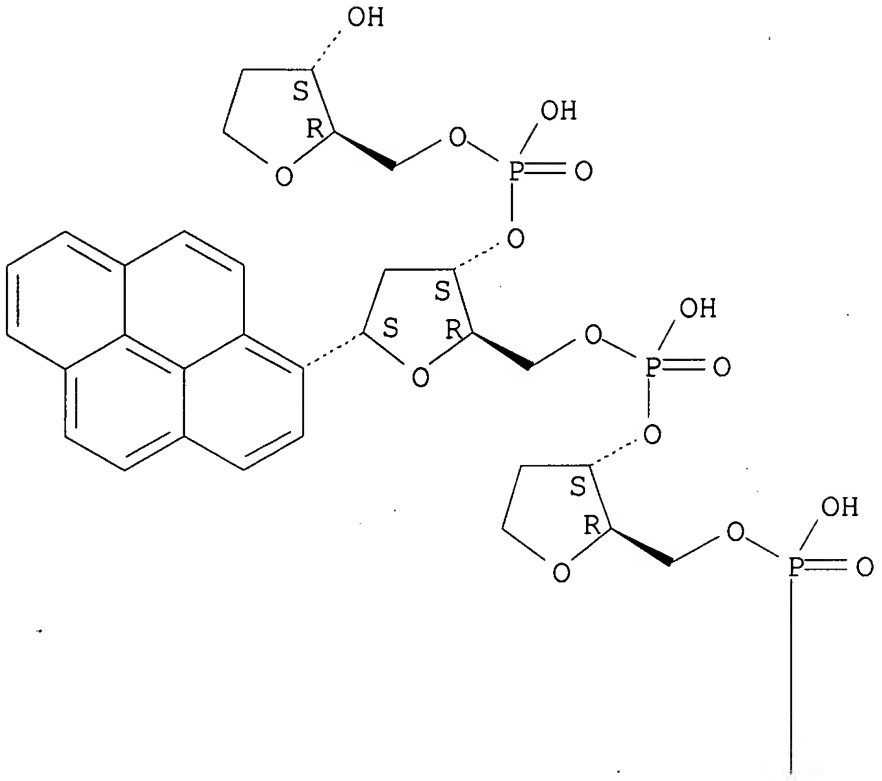
Absolute stereochemistry.

PAGE 1-A



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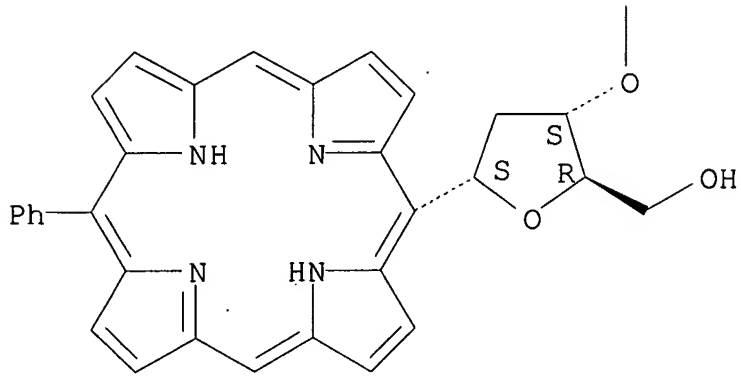
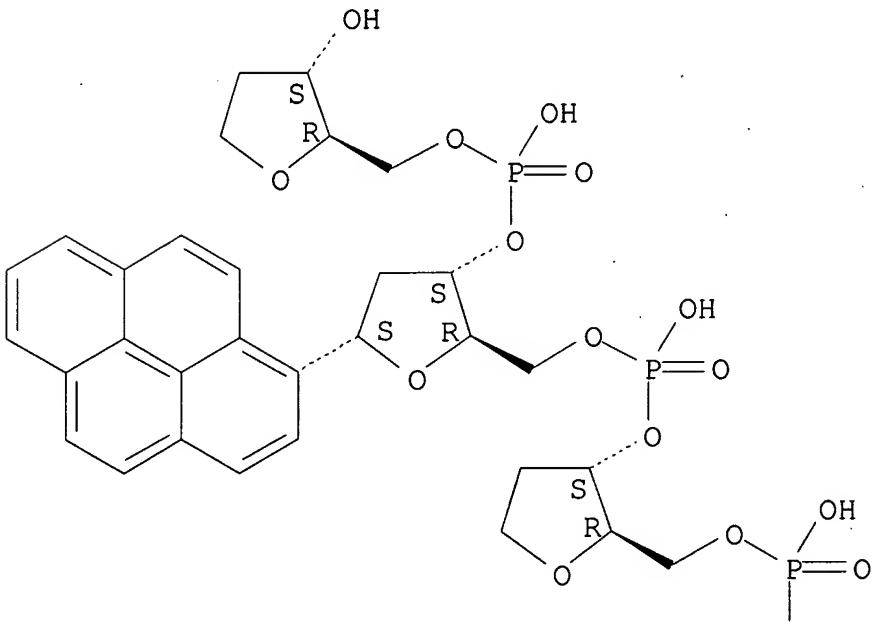


RN 667458-04-0 ZCA
CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(15-phenyl-21H,23H-porphin-5-yl)-α-

adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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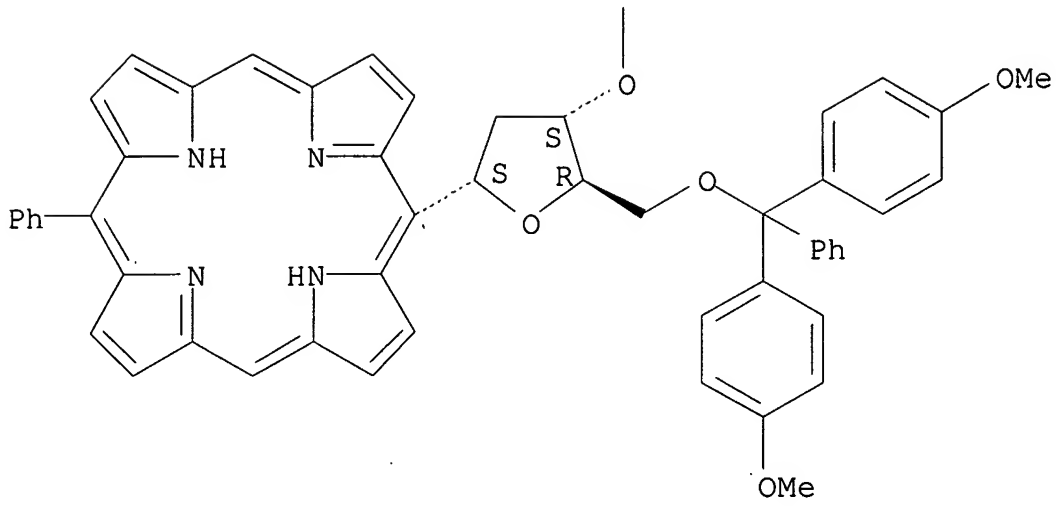

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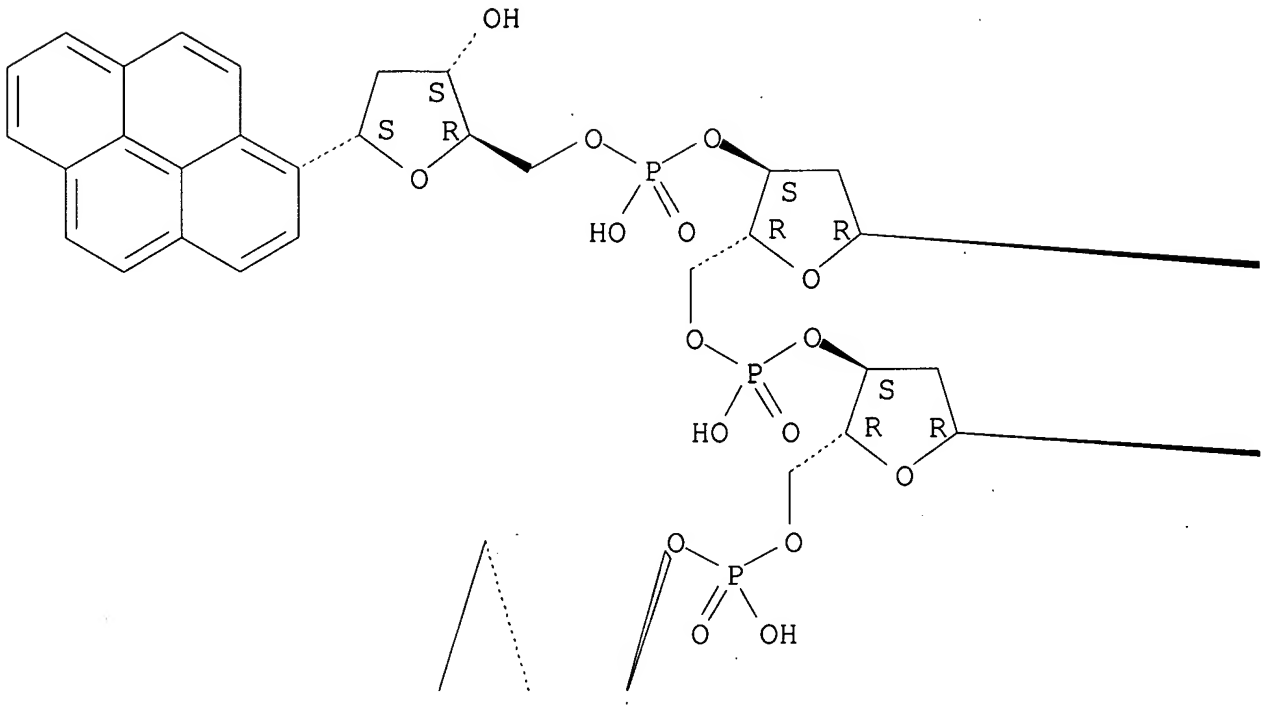
Absolute stereochemistry.

PAGE 1-A



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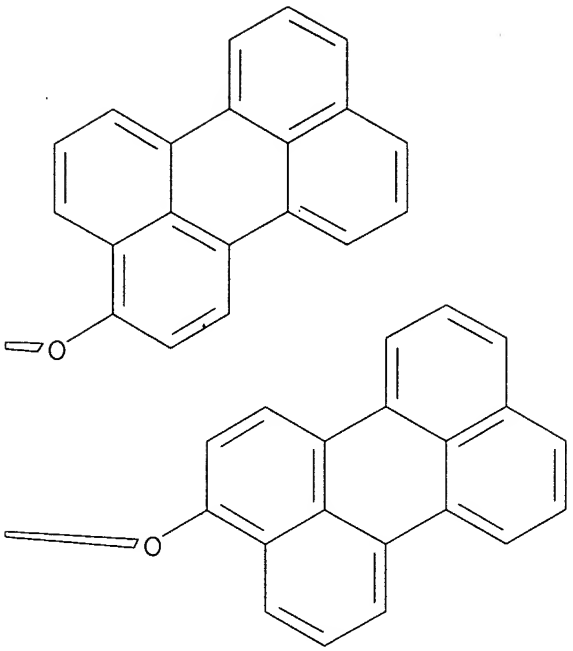

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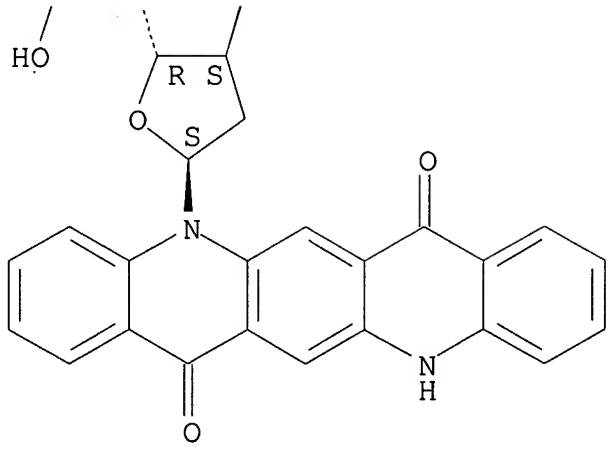

RN 667458-16-4 ZCA
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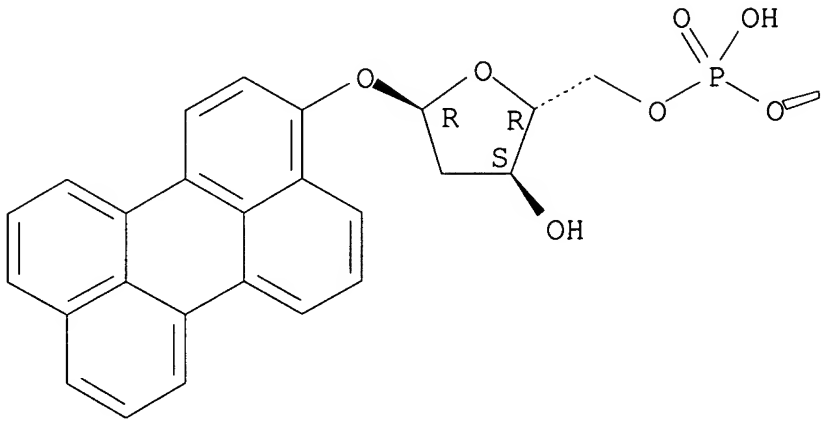
dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



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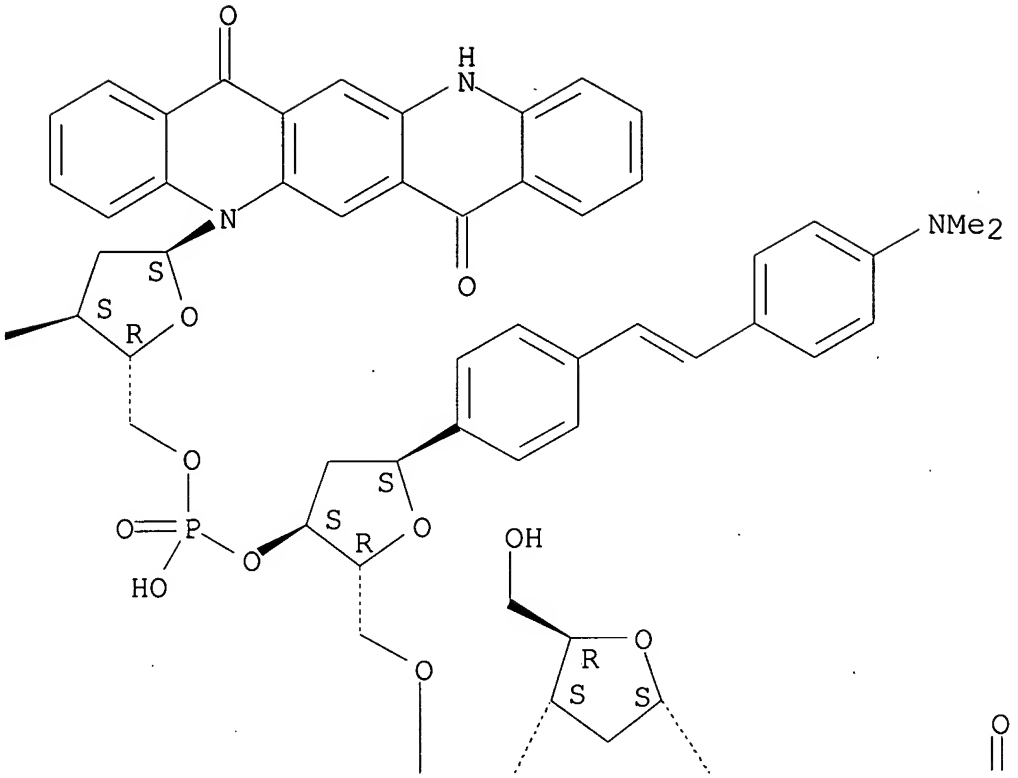

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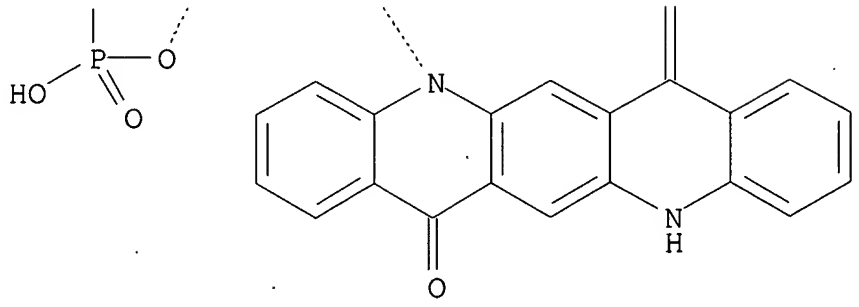

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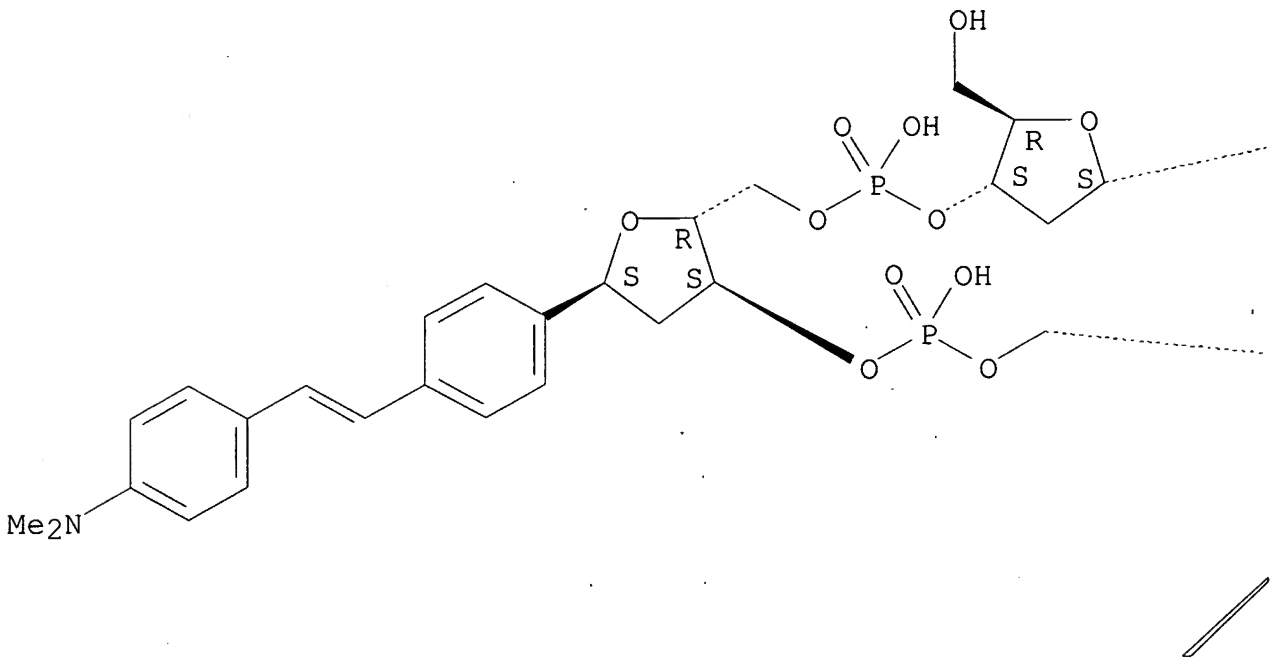
deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



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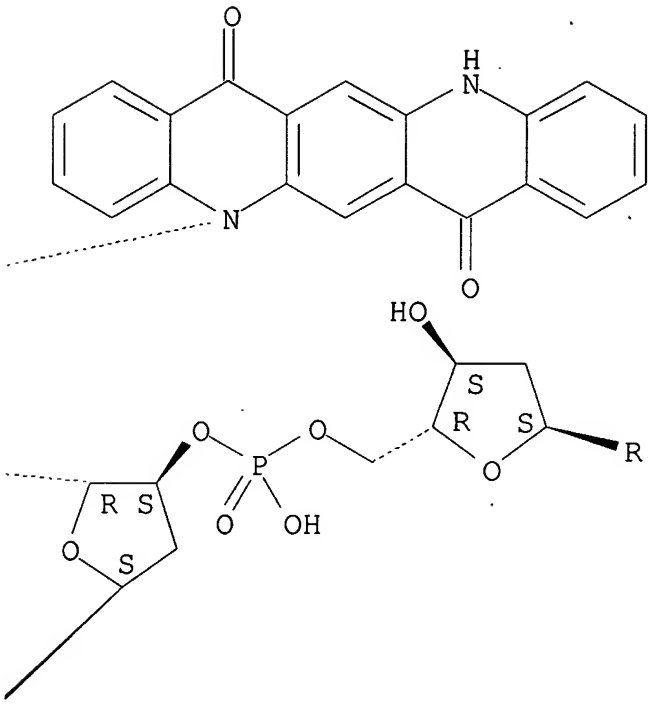

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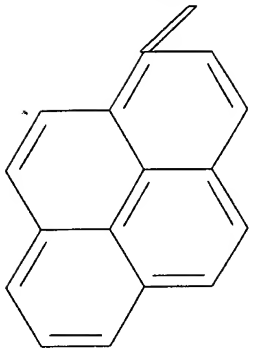

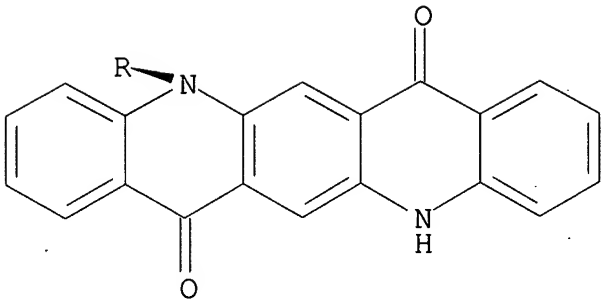

RN 667458-18-6 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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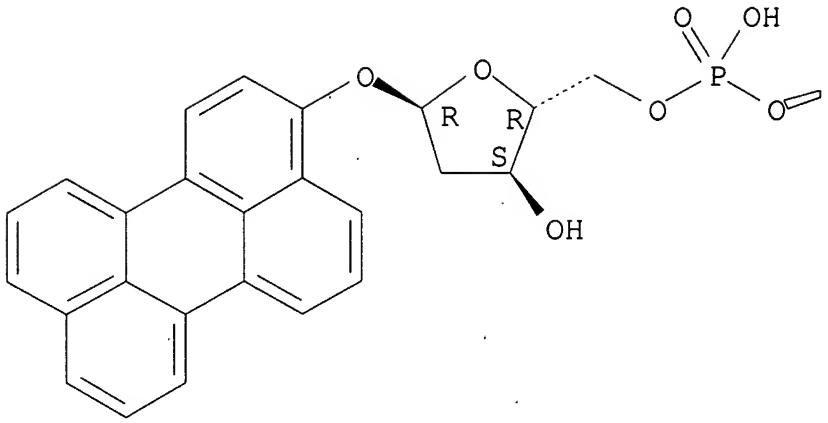

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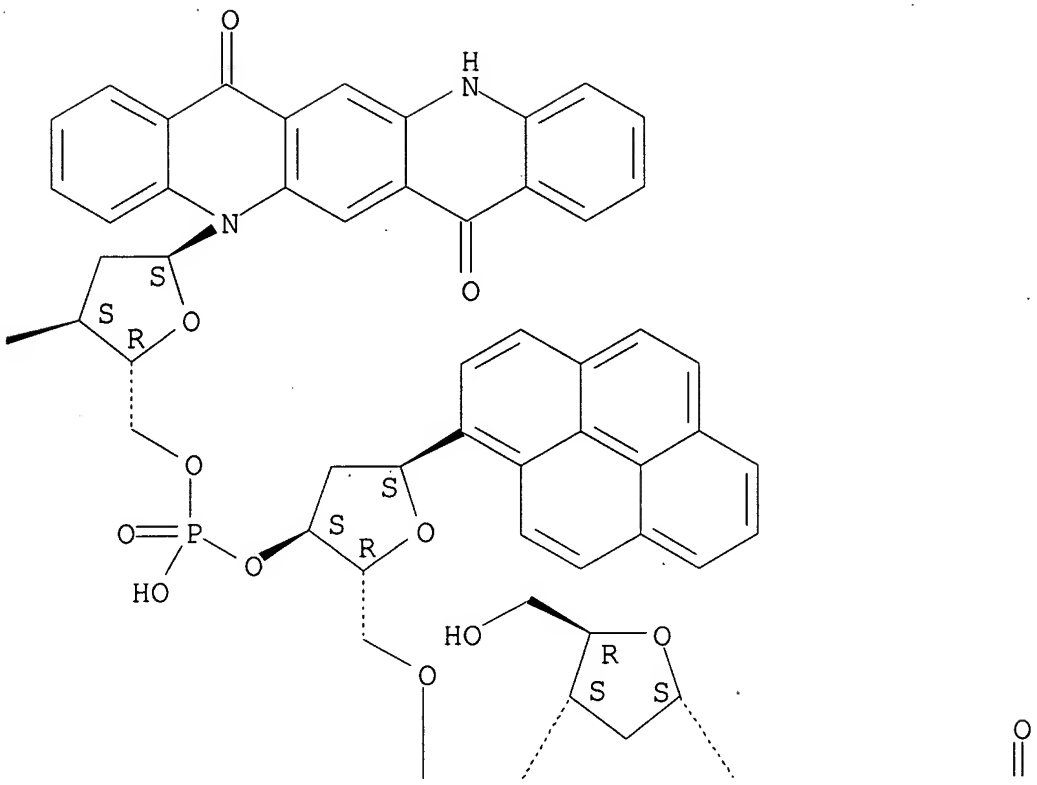

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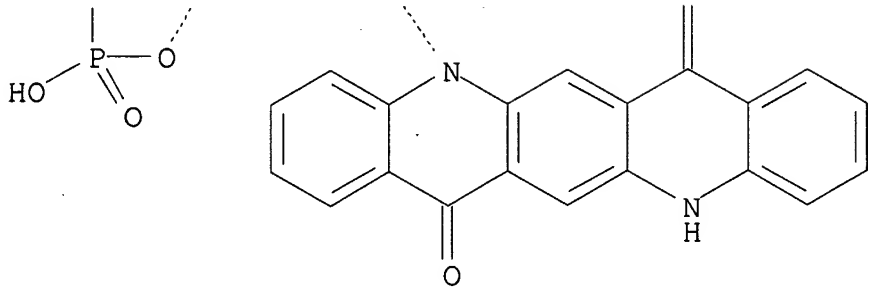

RN 667458-20-0 ZCA
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deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-
(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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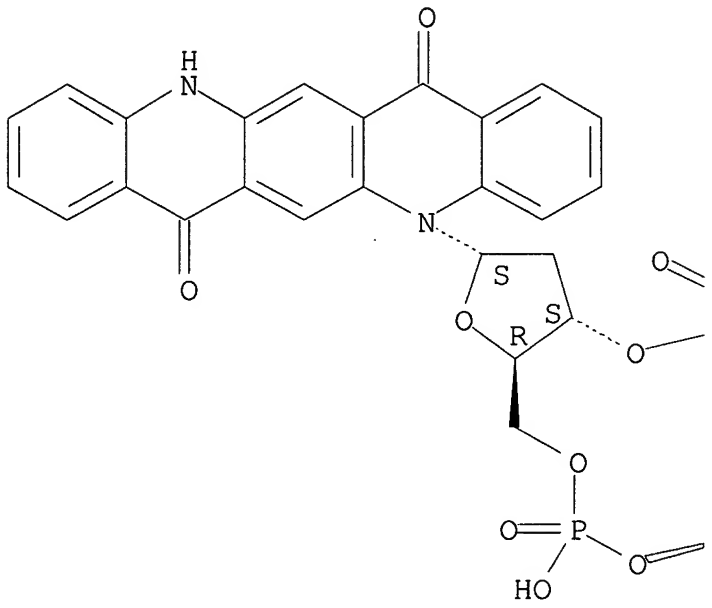

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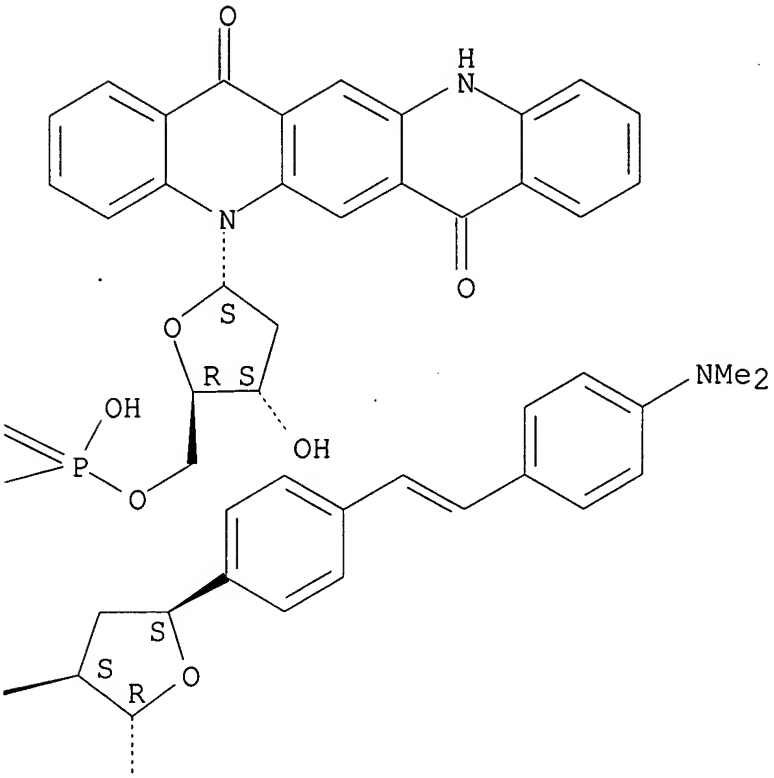

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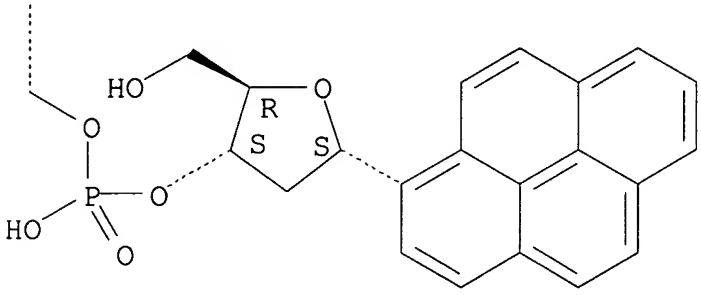

RN 667458-21-1 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-

dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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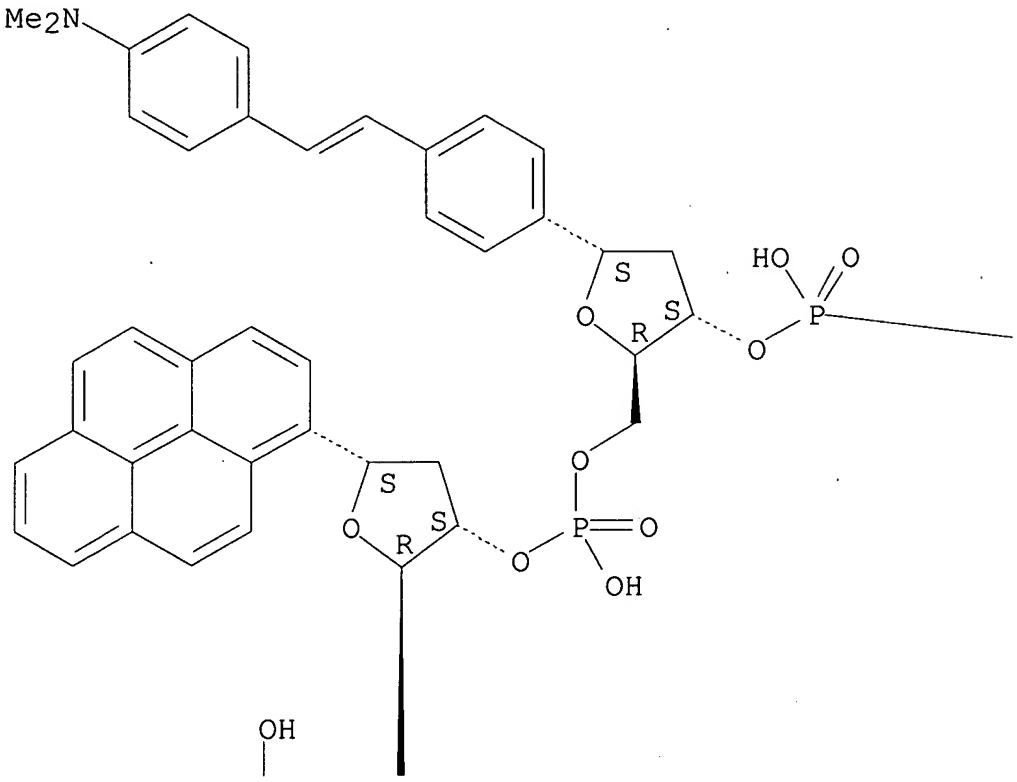

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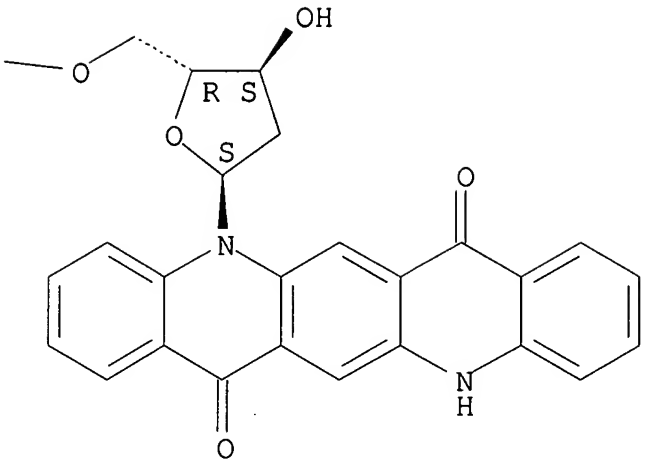

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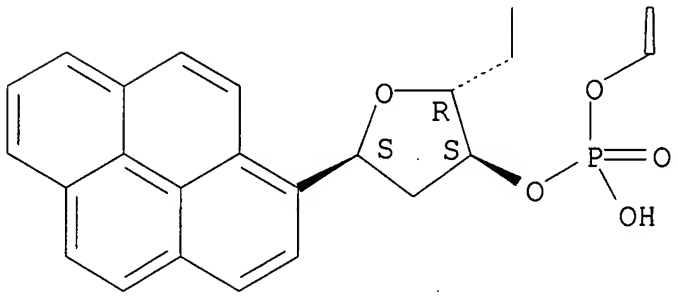

RN 667458-22-2 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-

(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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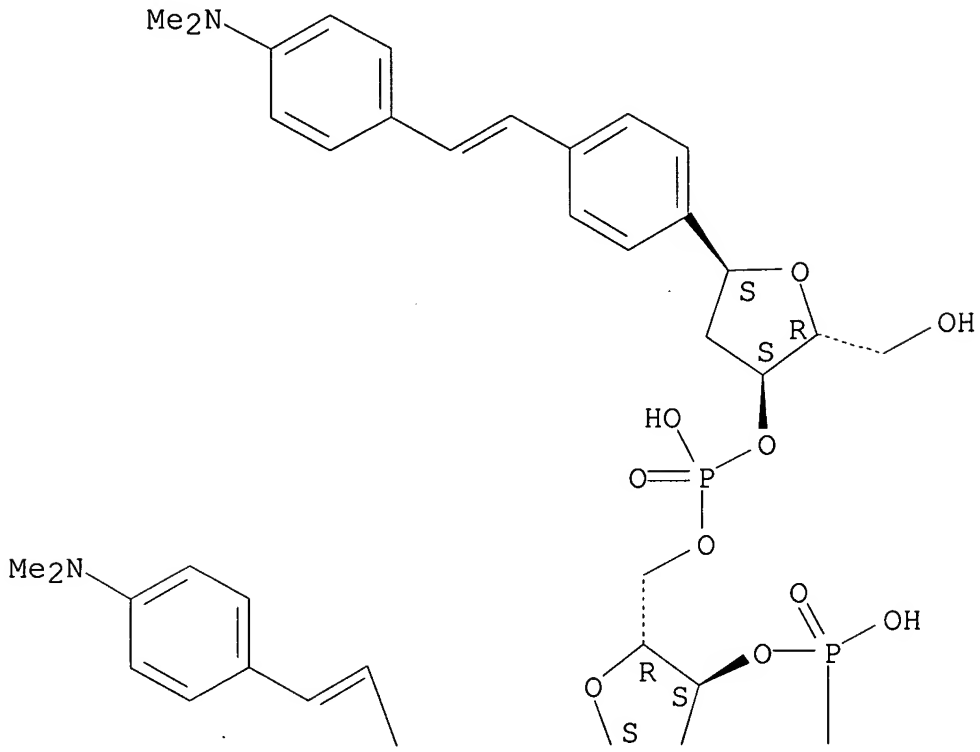

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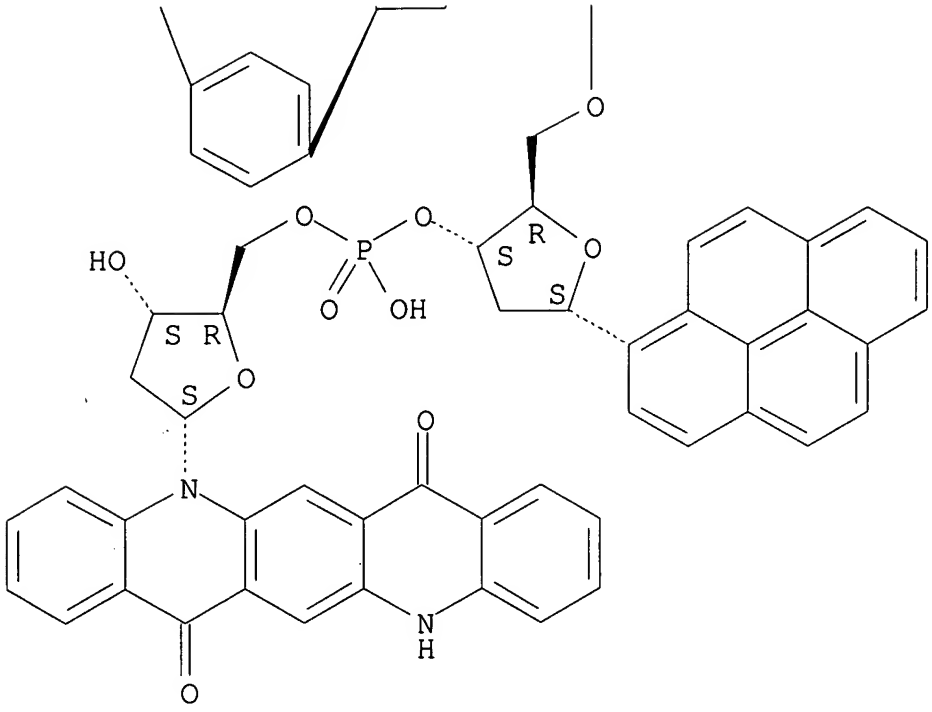

RN 667458-23-3 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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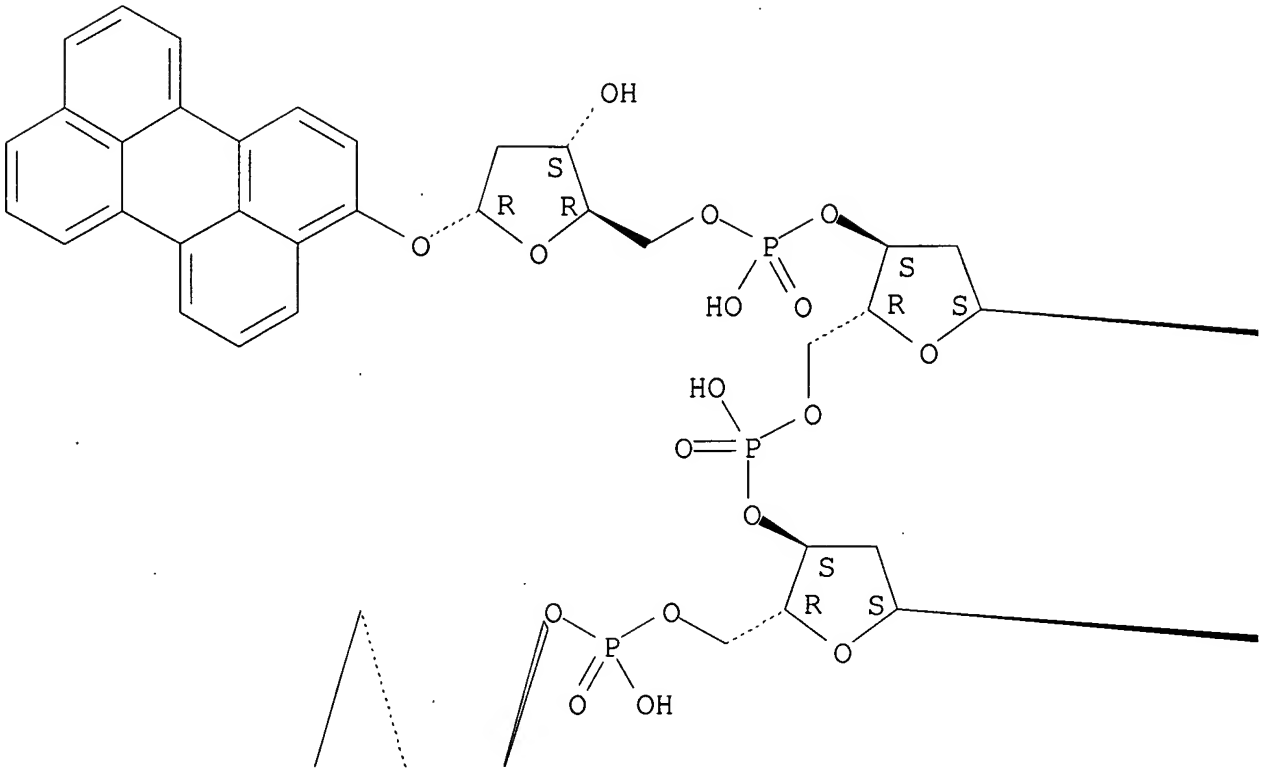

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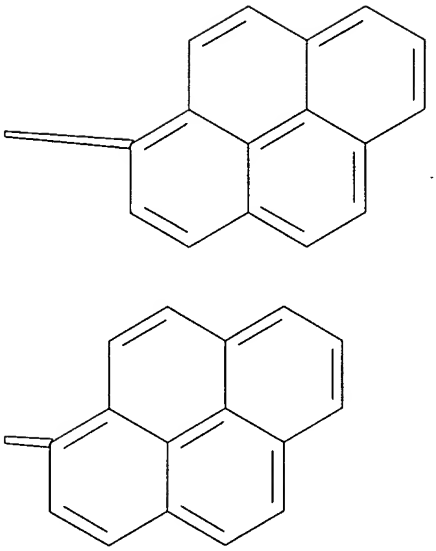

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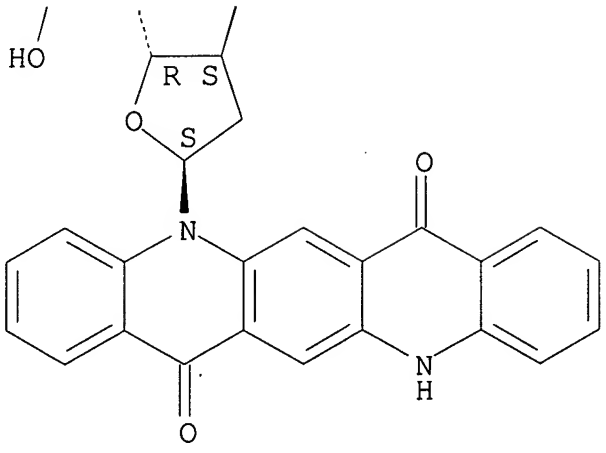

RN 667458-24-4 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-

(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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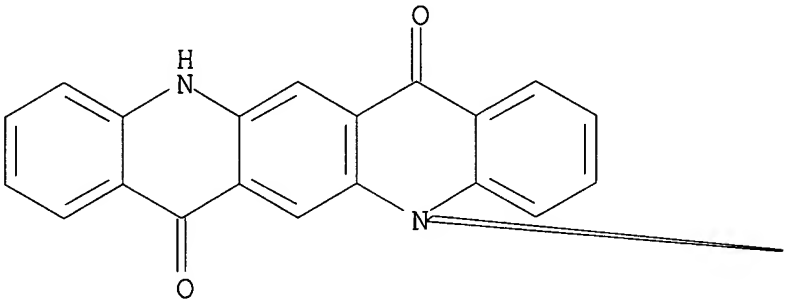

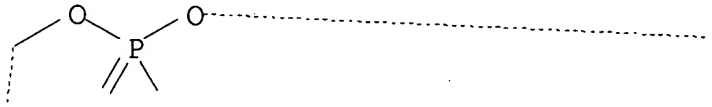

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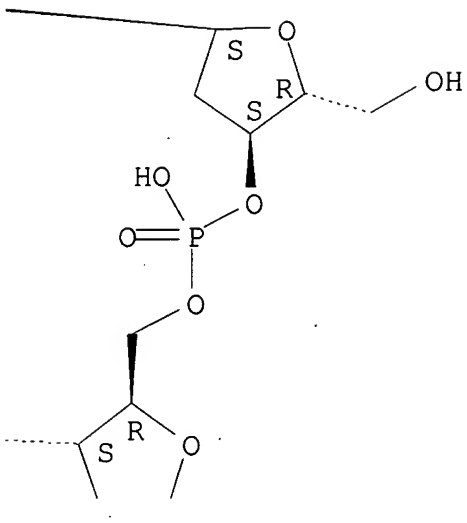

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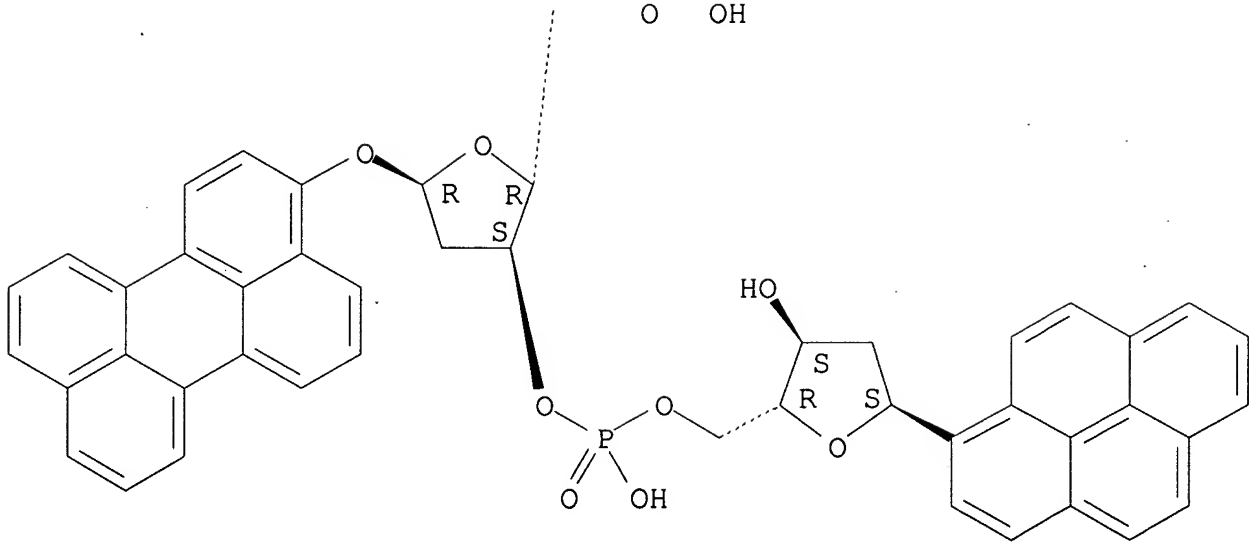

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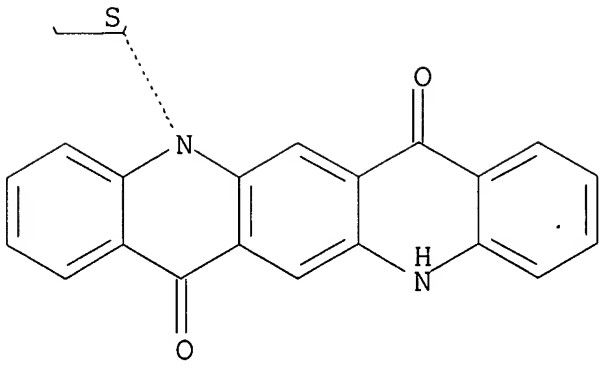

RN 667458-25-5 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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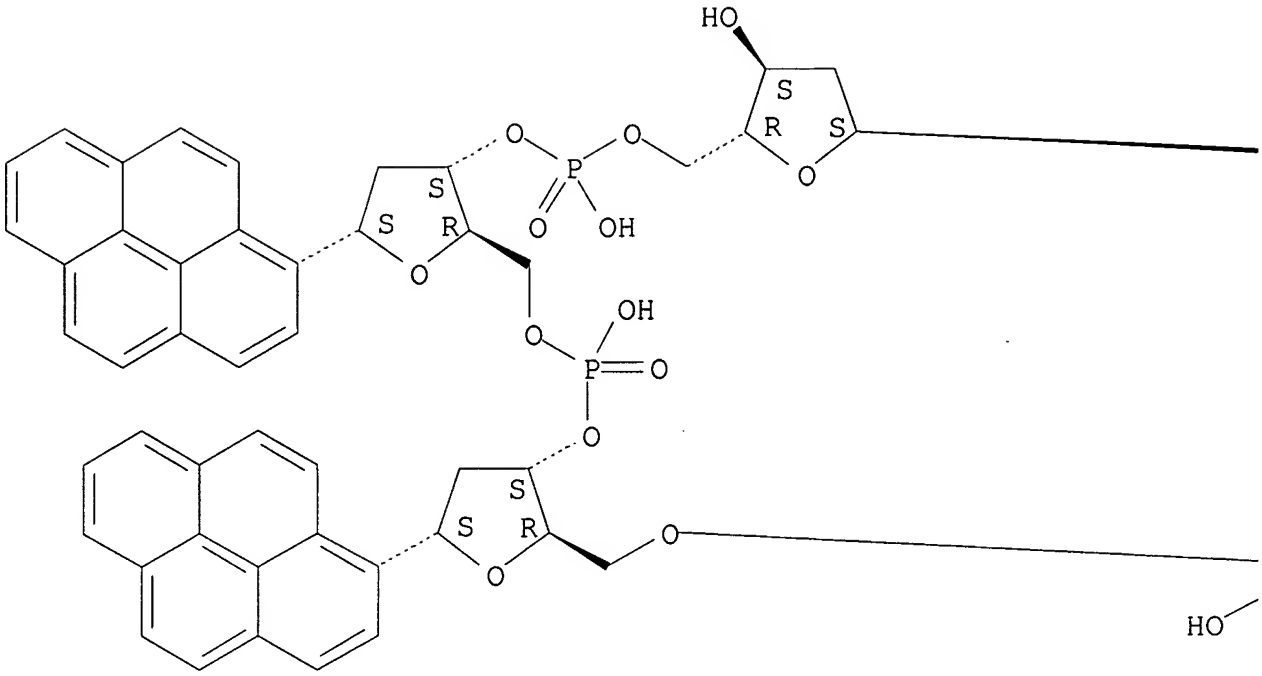

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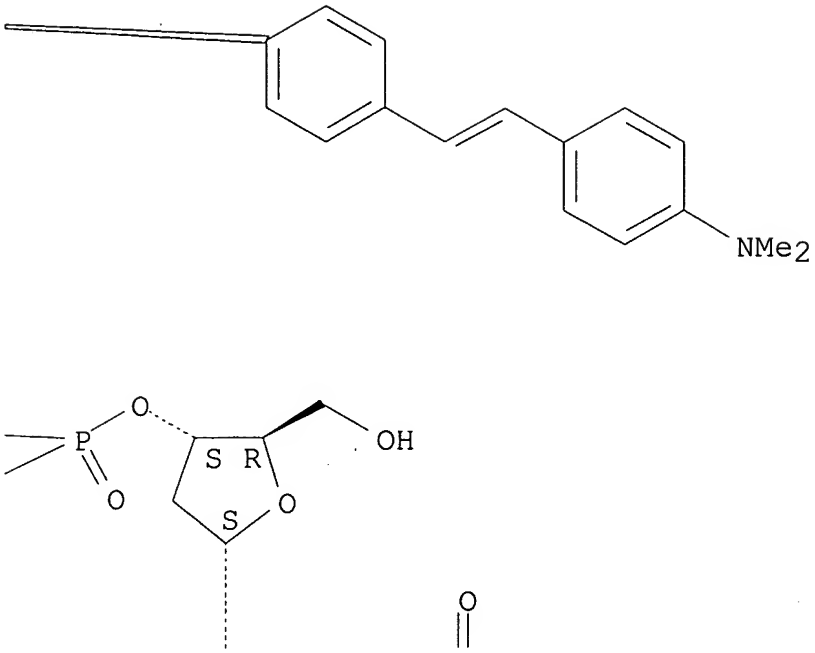

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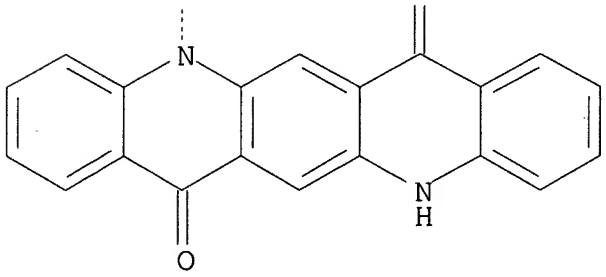

RN 667458-26-6 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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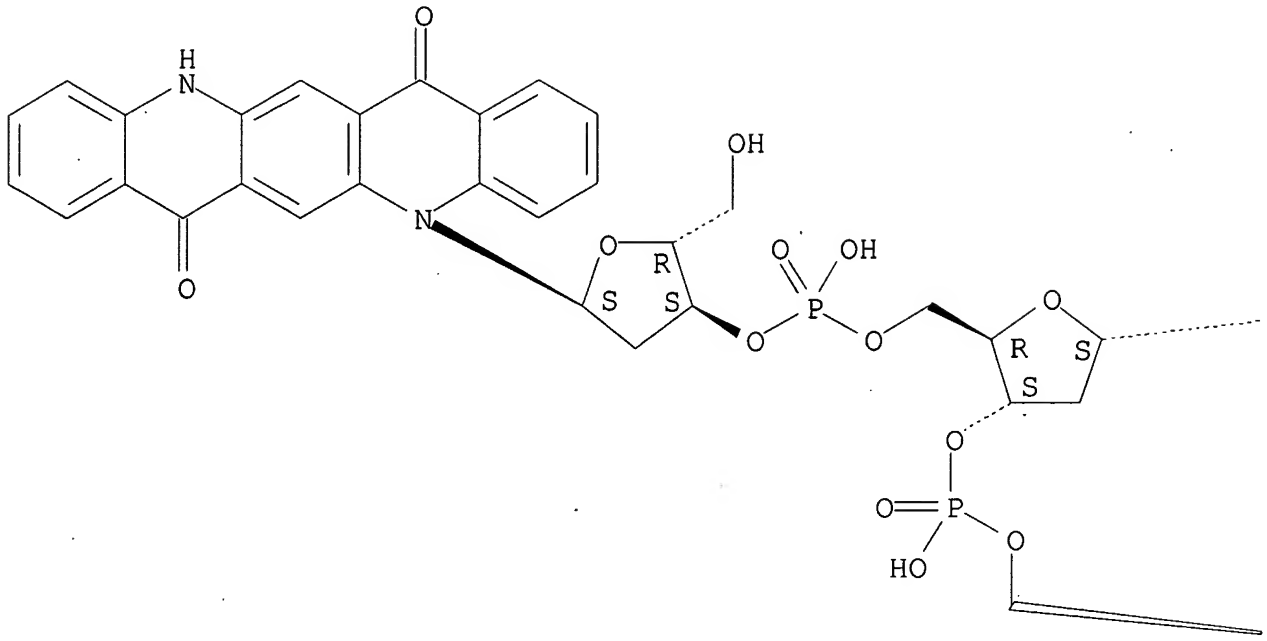

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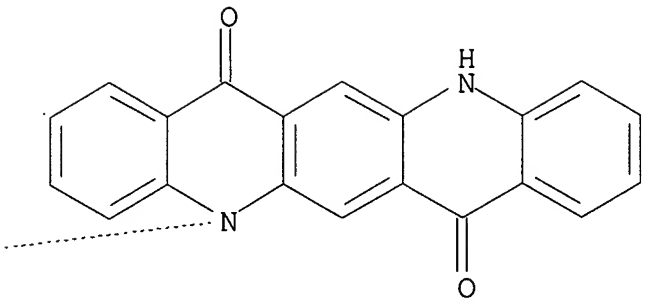

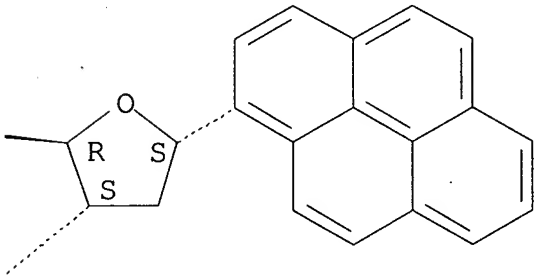

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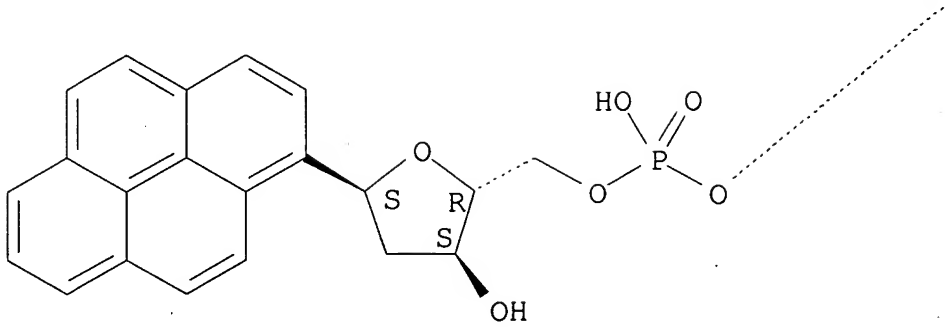

RN 667458-27-7 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-

α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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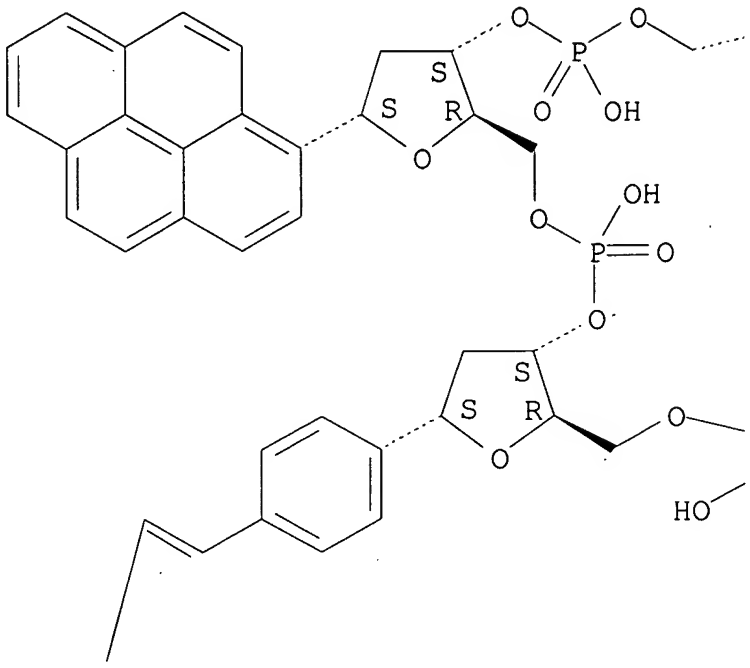

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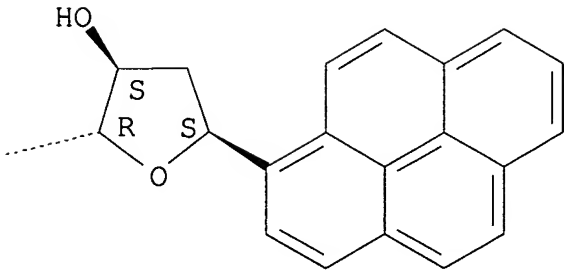

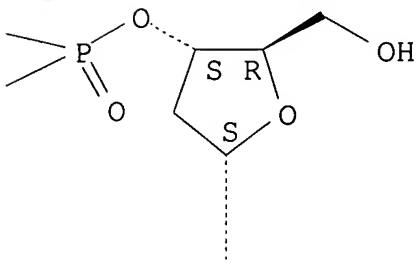

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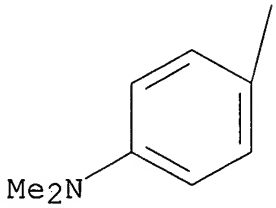

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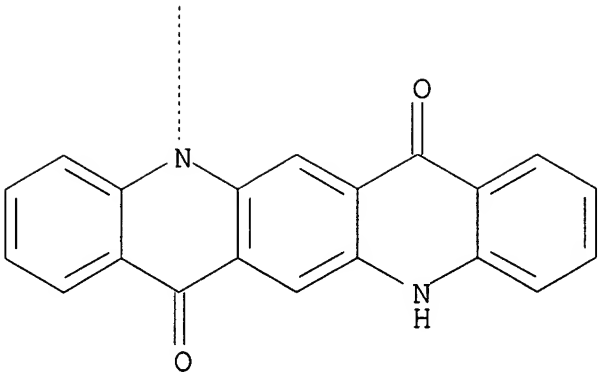

RN 667458-28-8 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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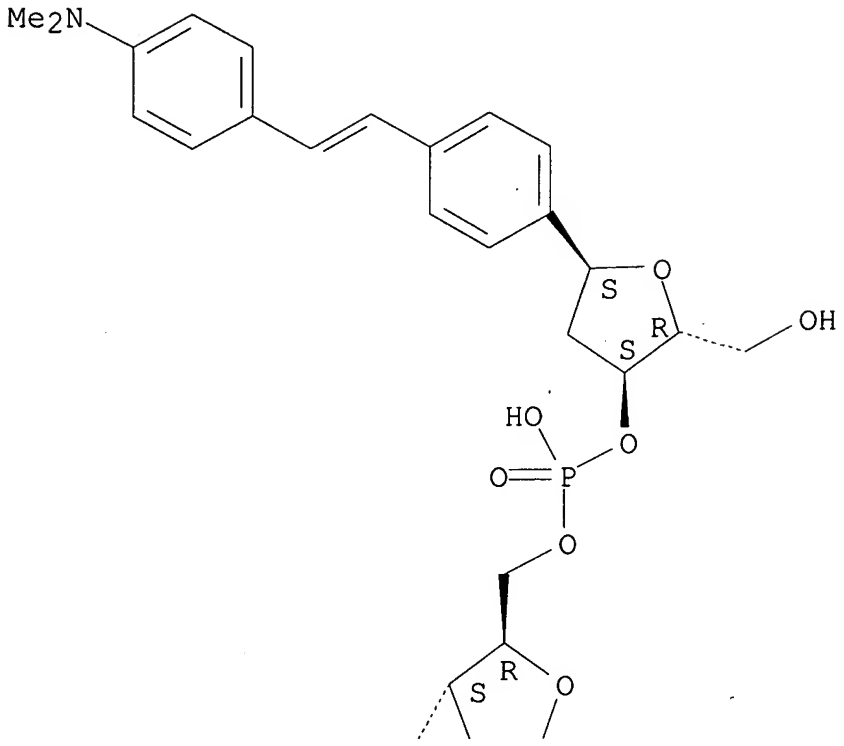

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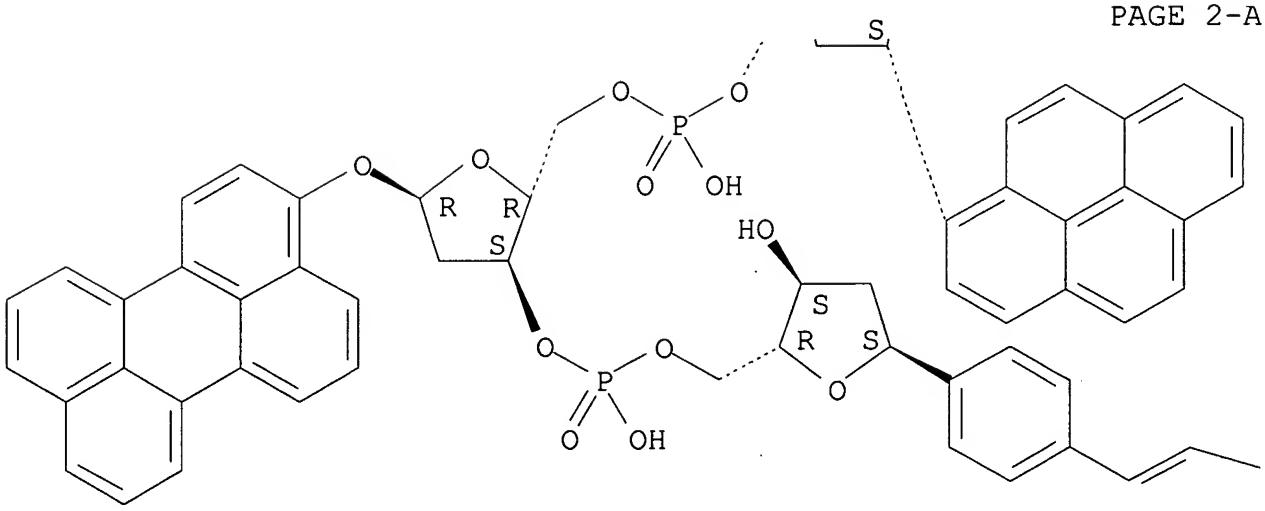

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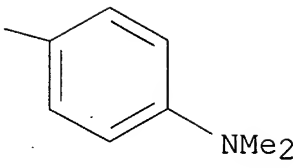

RN 667458-29-9 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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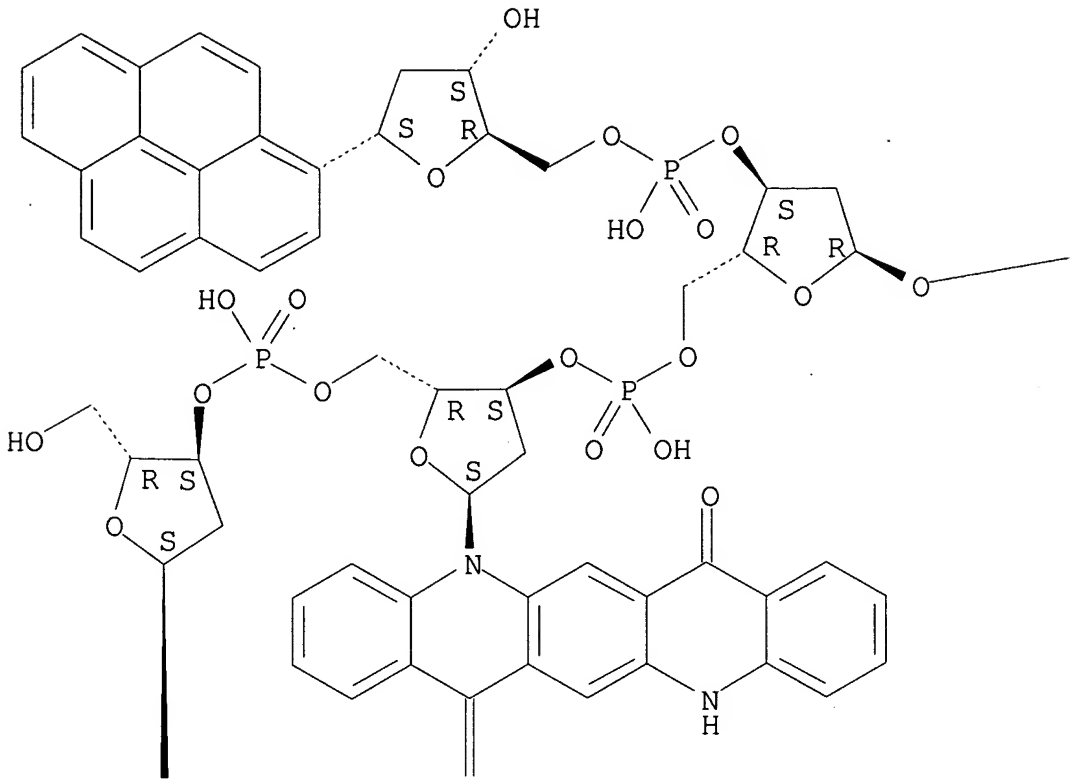

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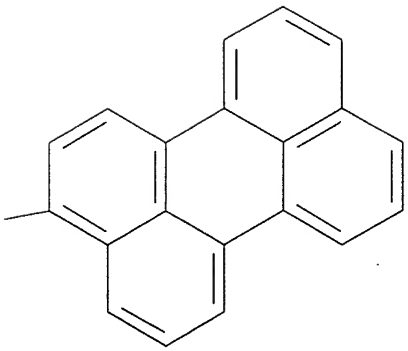

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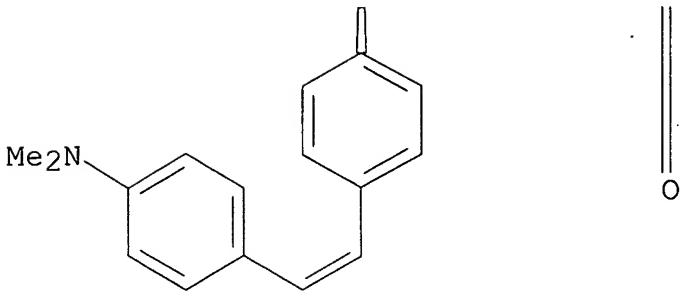

RN 667458-30-2 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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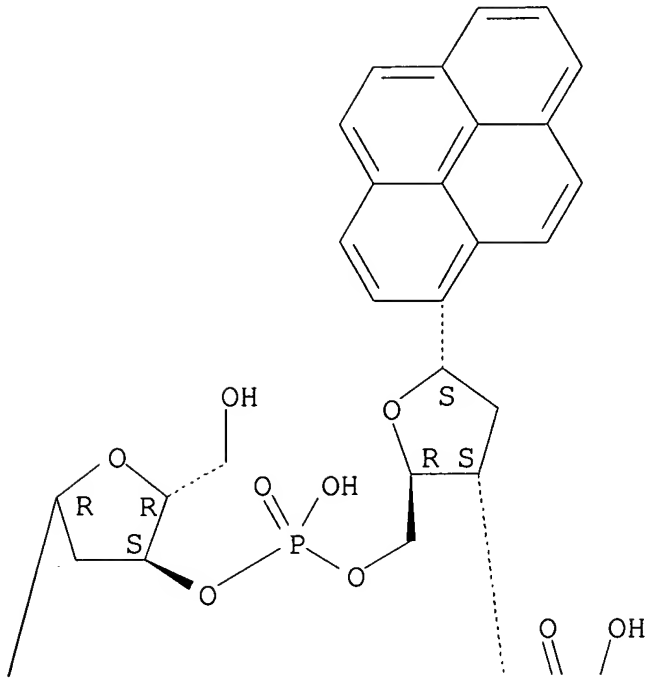

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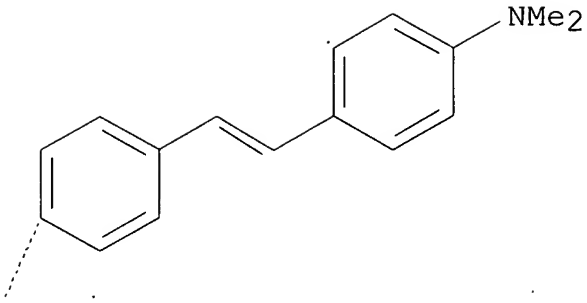

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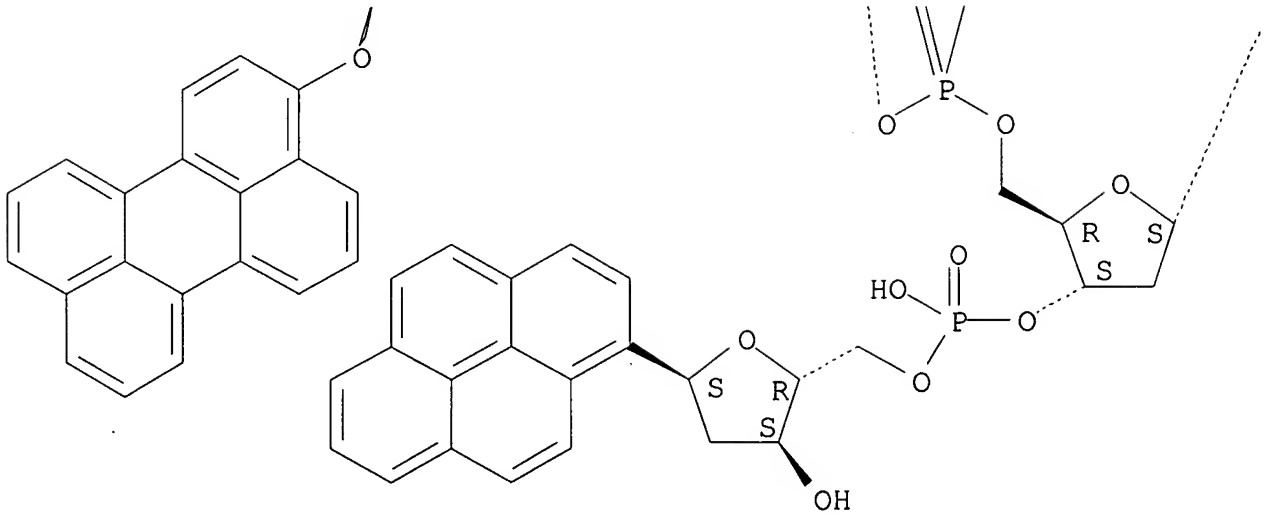

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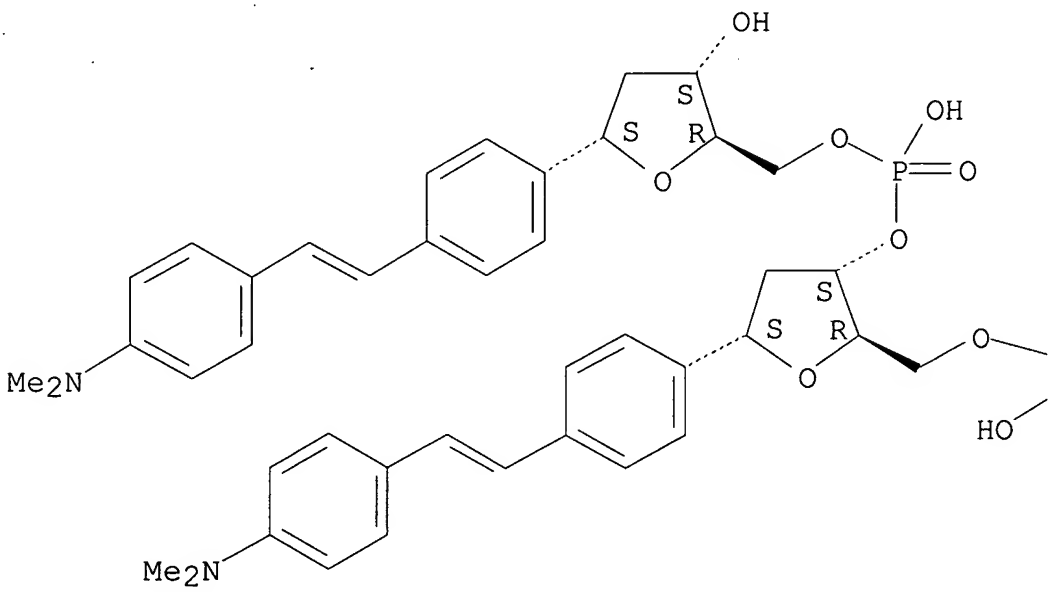
RN 667458-32-4 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

PAGE 1-A



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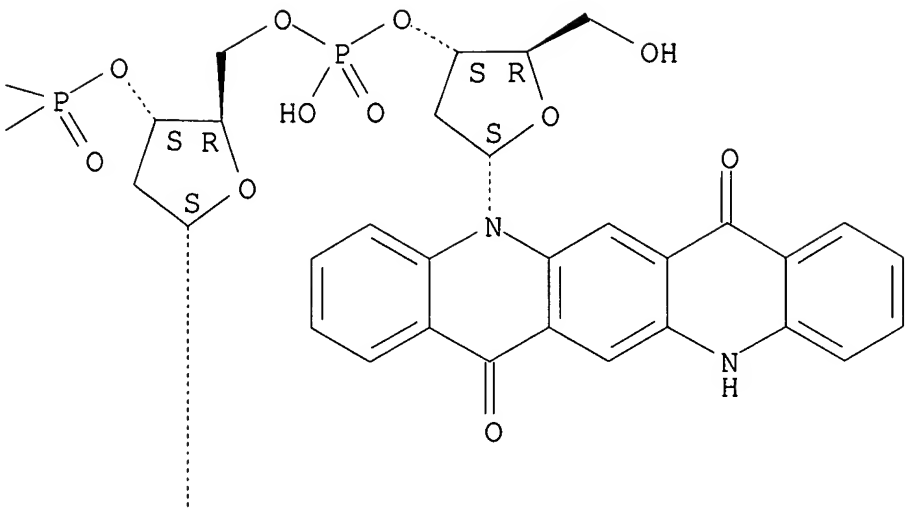

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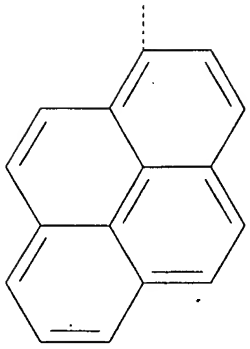

RN 667458-33-5 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-

[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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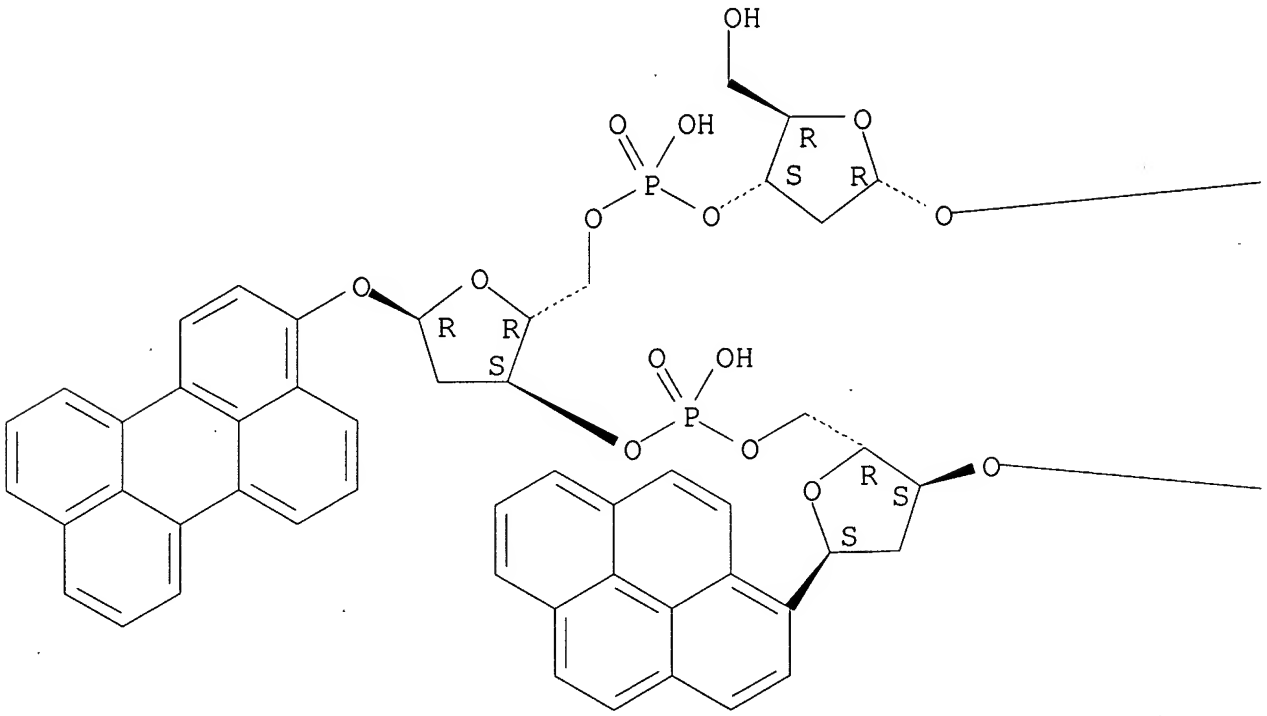

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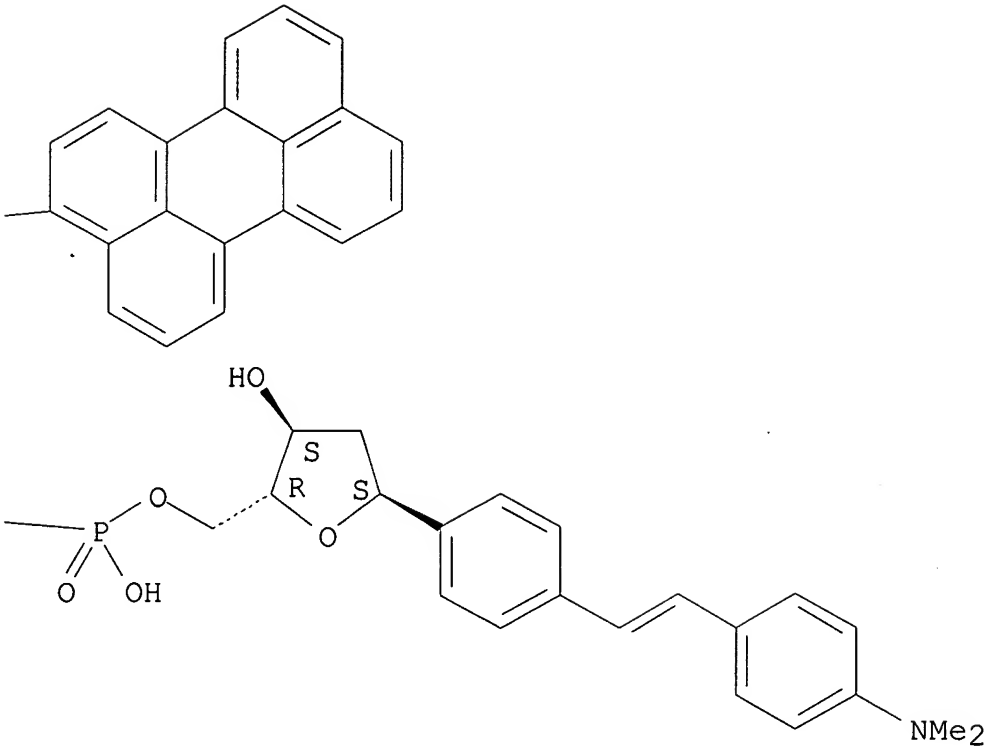

RN 667458-35-7 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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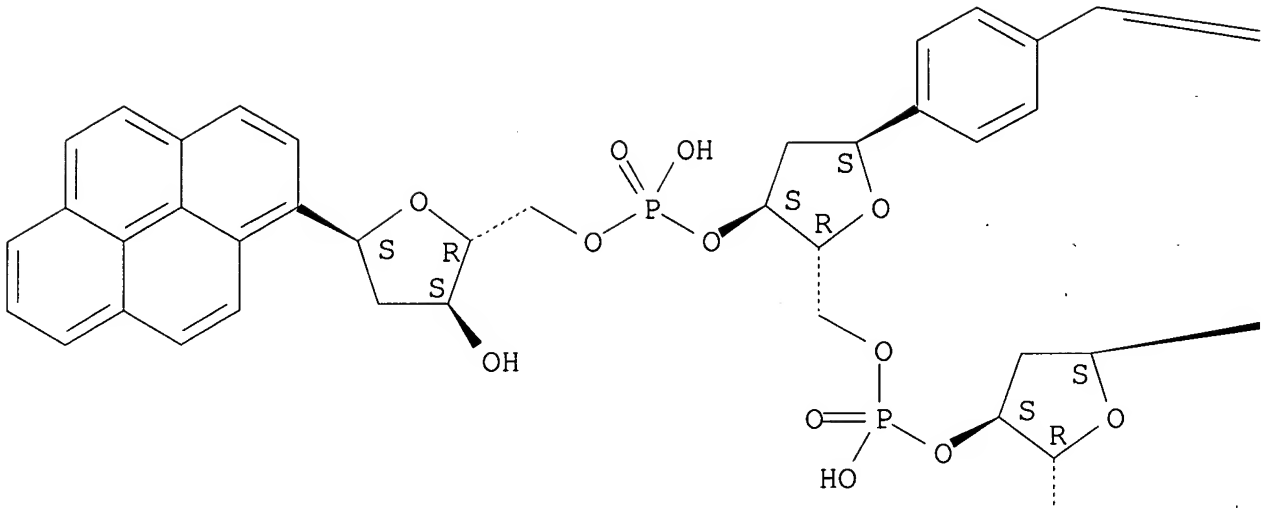

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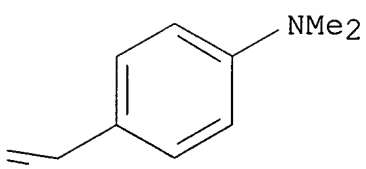

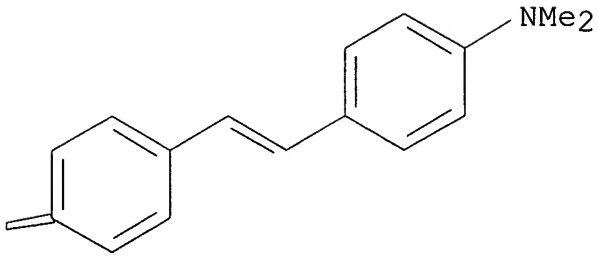

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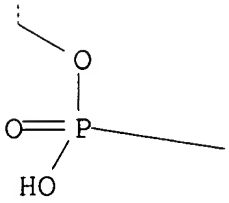

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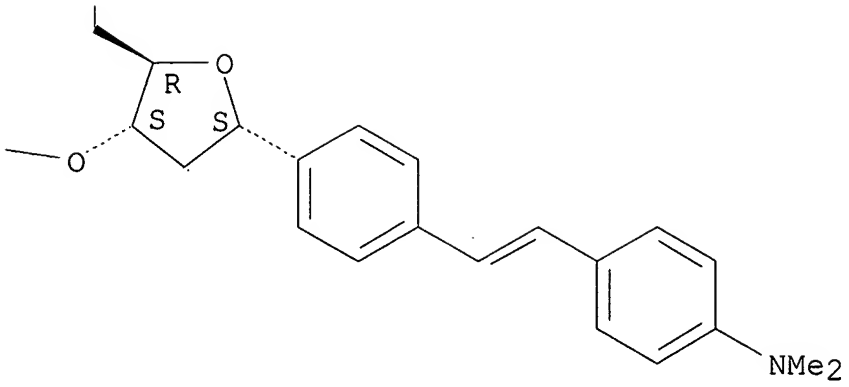

RN 667458-37-9 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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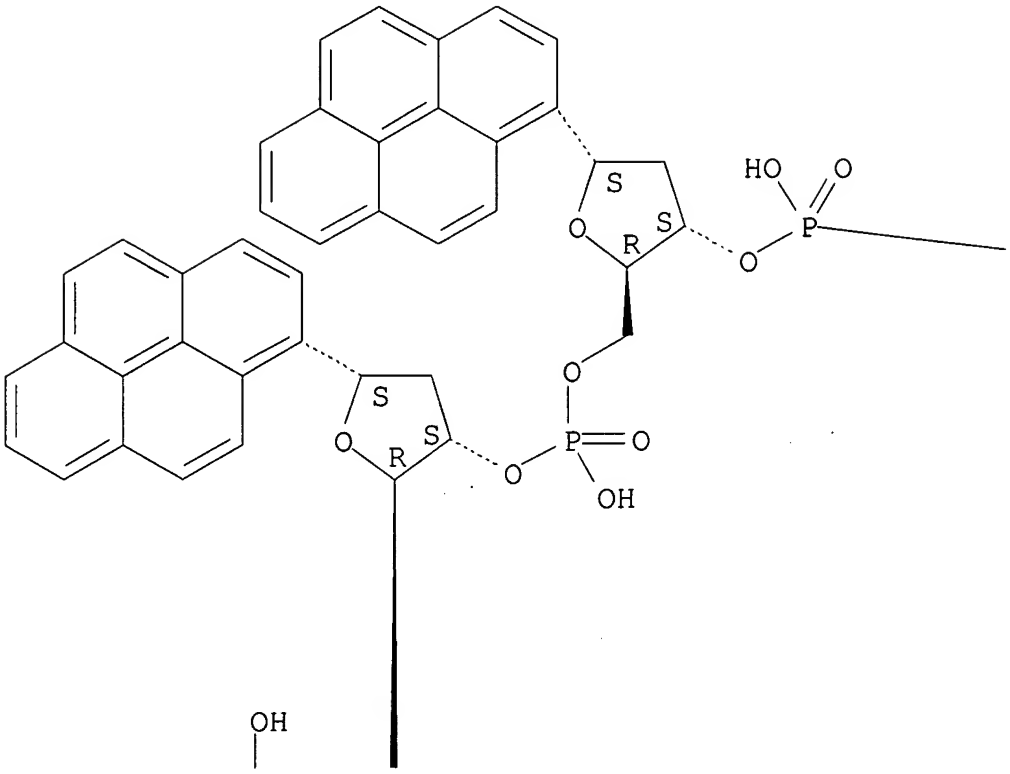

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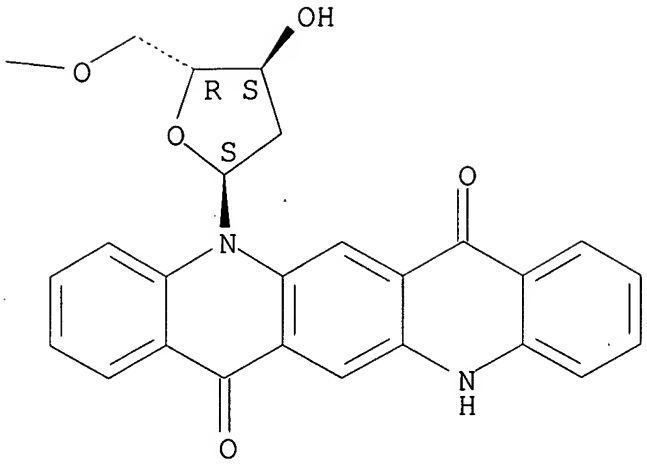

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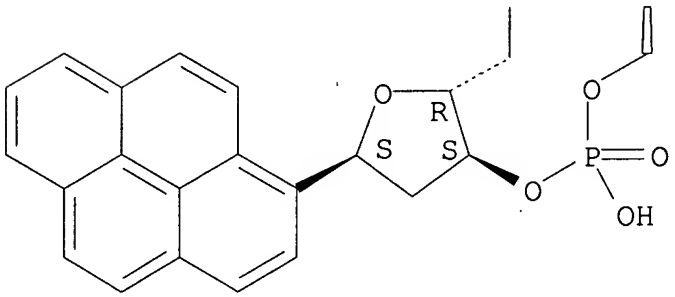

RN 667458-39-1 ZCA
CN α-Adenosine, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(3-perylenyloxy)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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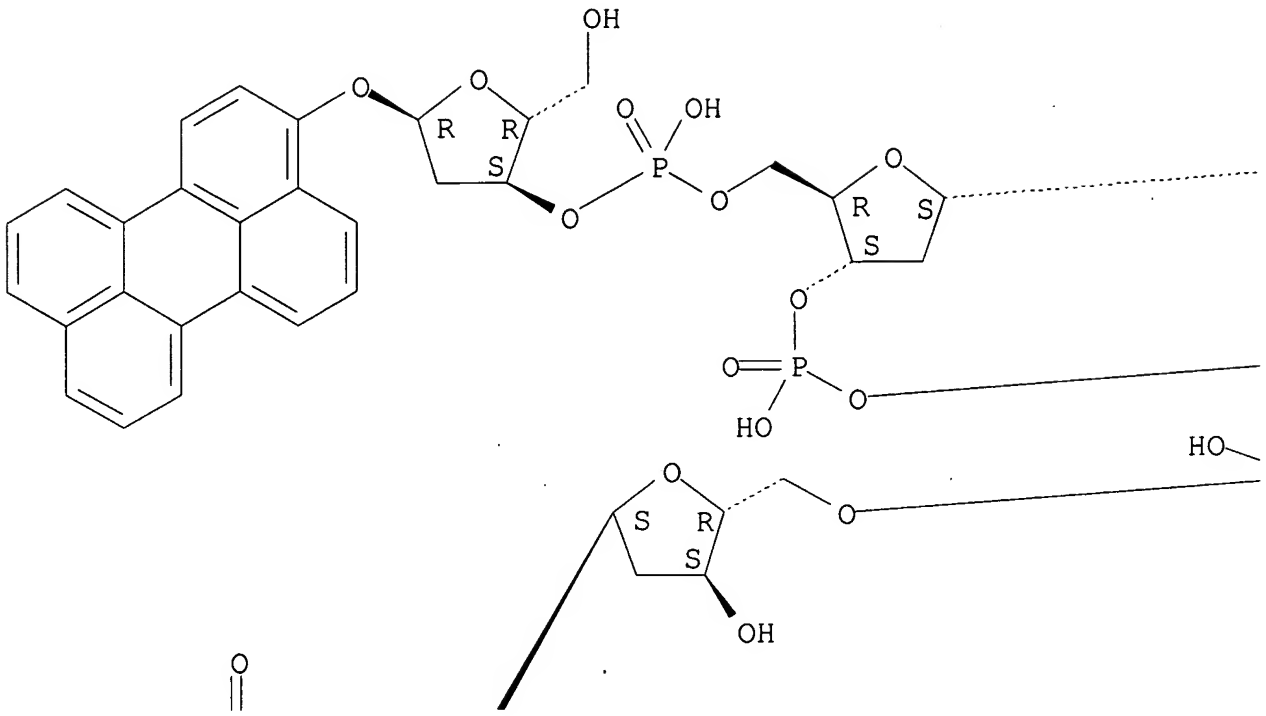

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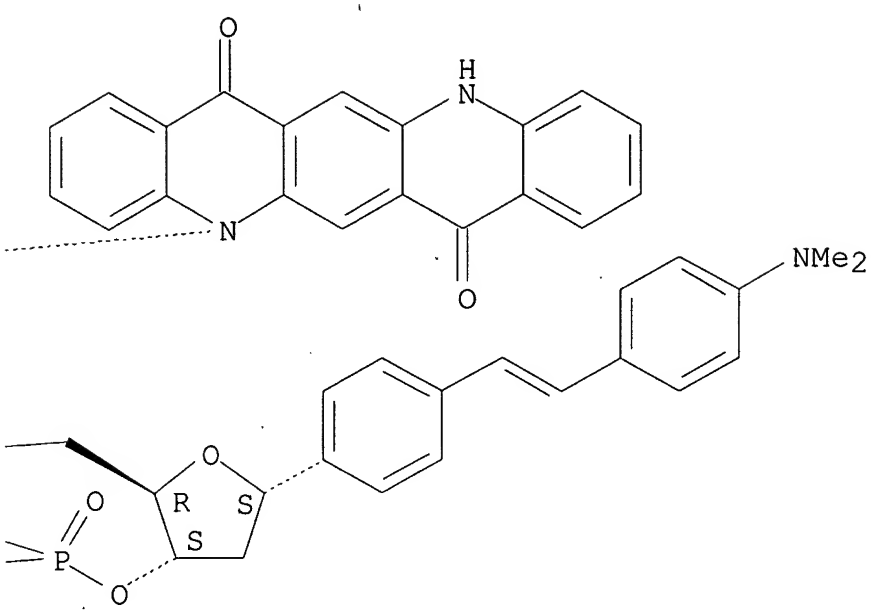

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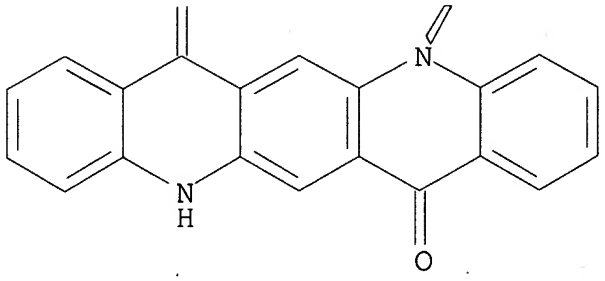

RN 667458-40-4 ZCA

CN 3'-Adenylic acid, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(7,14-dihydro-7,14-dioxoquino[2,3-b]acridin-5(12H)-yl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

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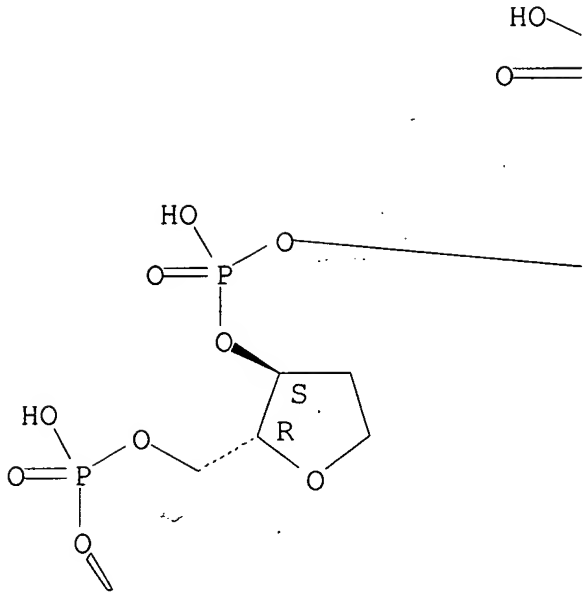

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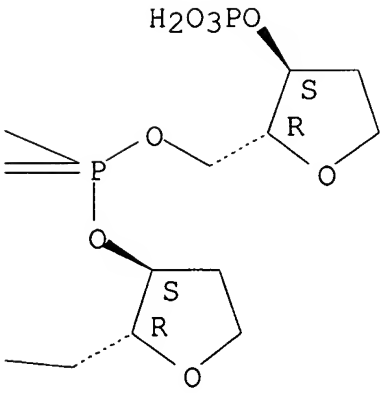

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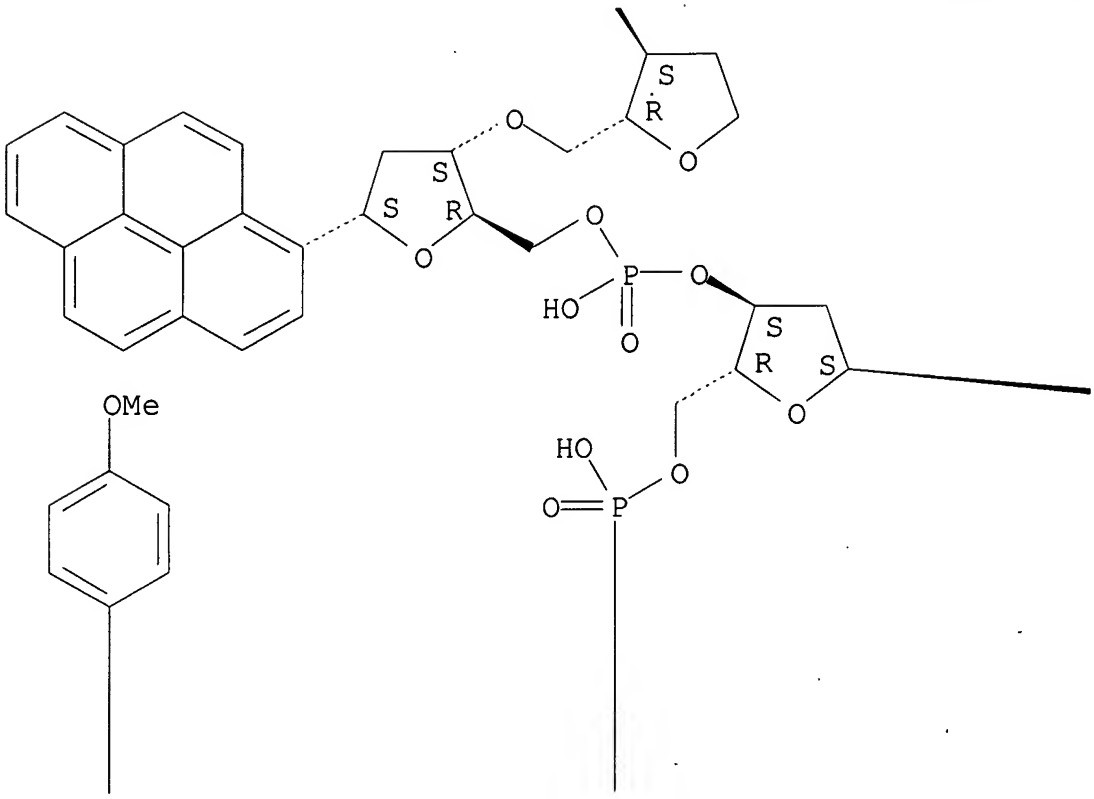

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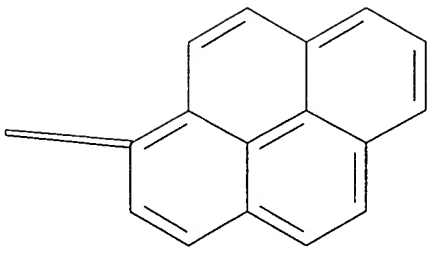

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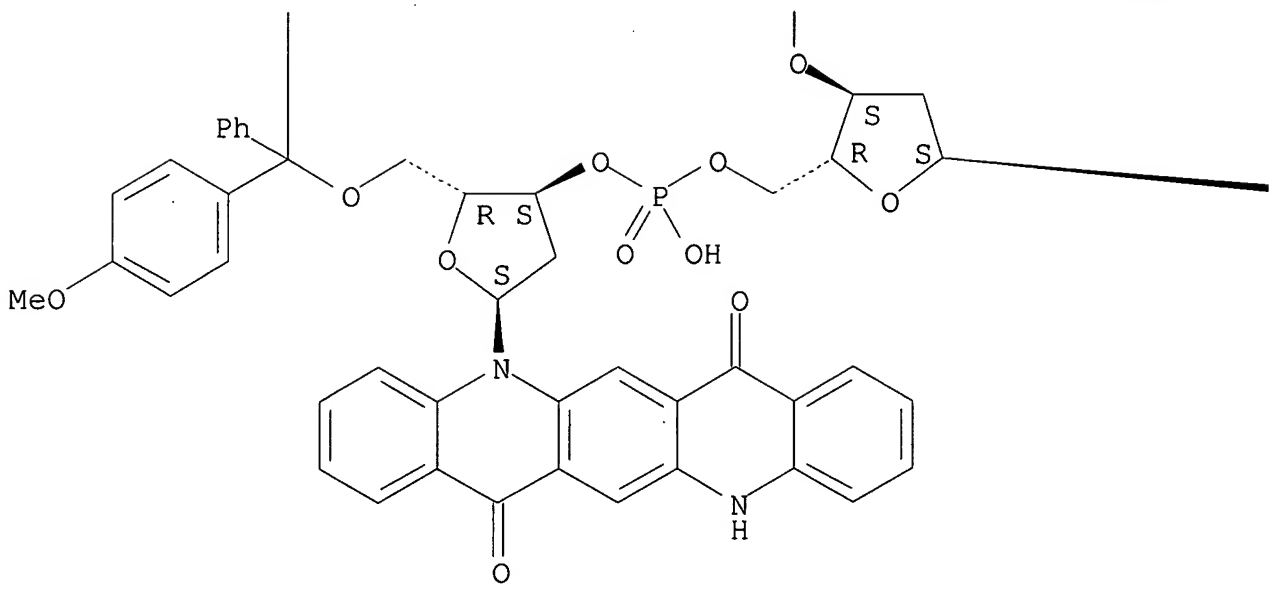

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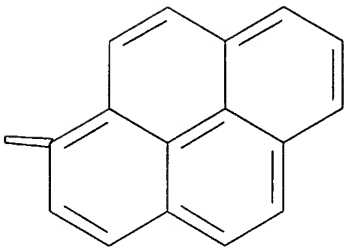

RN 667458-42-6 ZCA
CN 3'-Adenylic acid, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[4-[2-[4-(dimethylamino)phenyl]ethenyl]phenyl]-α-adenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-(3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy- (9CI) (CA

INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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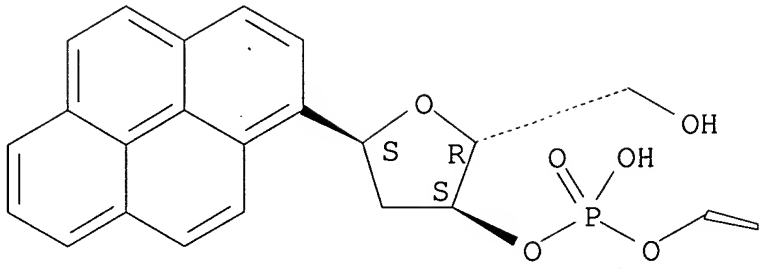

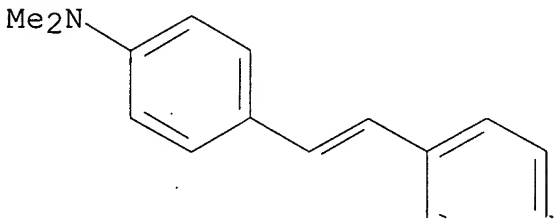

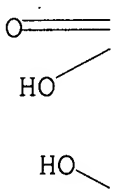

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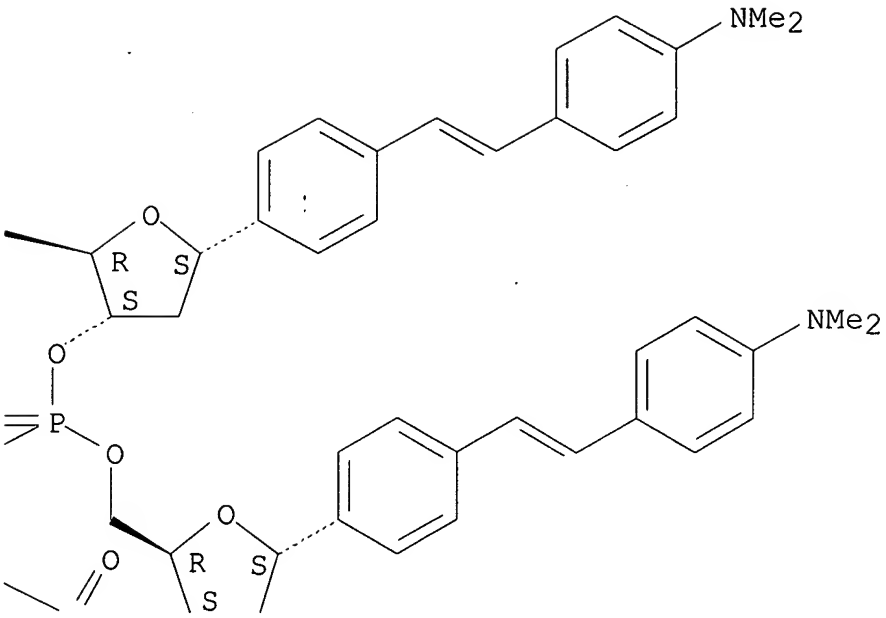

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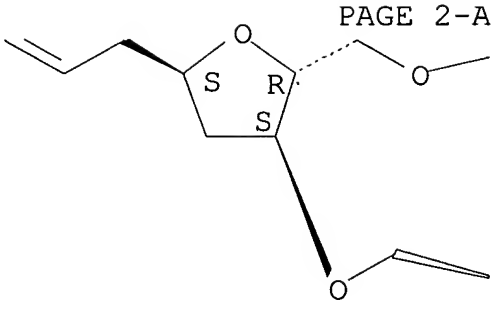

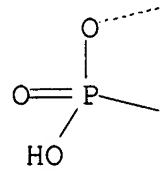

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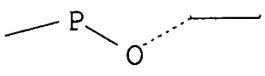
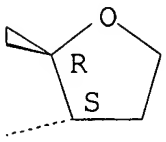
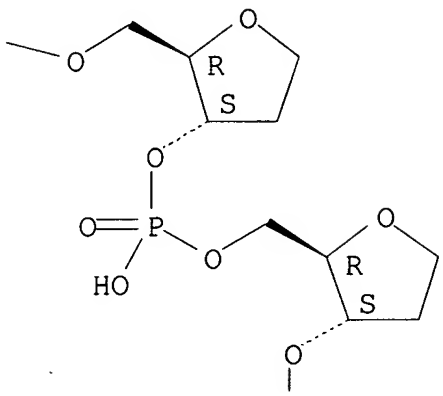
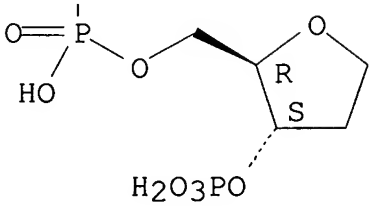






PAGE 3-B



IC ICM G01N
CC 80-3 (Organic Analytical Chemistry)
Section cross-reference(s): 9
IT 50-69-1, Ribose 50-99-7, D-Glucose, analysis 58-86-6, Xylose, analysis 59-23-4, D-Galactose, analysis 65-42-9, Lyxose 147-81-9, Arabinose 1724-14-7, 2-Deoxyribose 2152-76-3, Idose 3396-73-4 3458-28-4, D-Mannose 5987-68-8, Altrose 6038-51-3, Allose 19163-87-2, Gulose 30077-17-9, Talose 181228-85-3 473906-67-1 **473906-68-2** 473906-69-3 **473906-70-6** 667457-70-7 667457-71-8 667457-72-9 667457-73-0 667457-74-1

667457-75-2 667457-76-3 667457-77-4 667457-78-5 667457-79-6
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667458-05-1 **667458-15-3 667458-16-4**
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667458-32-4 667458-33-5 667458-34-6
667458-35-7 667458-36-8 **667458-37-9**
667458-38-0 **667458-39-1 667458-40-4**
667458-41-5 **667458-42-6** 667458-43-7 667864-77-9
667864-78-0 667864-79-1 667864-80-4 667975-72-6 667975-73-7
(fluorescent glycosides as labels for chem. and biol. mols.)

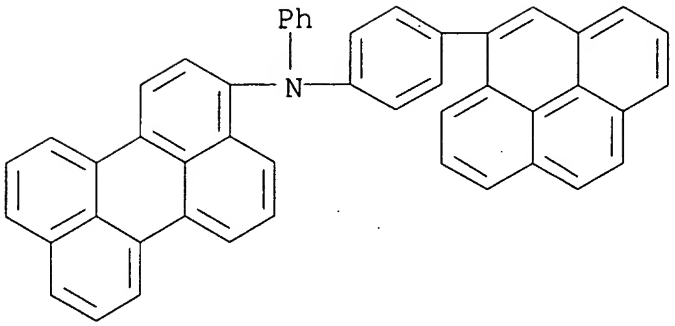
L37 ANSWER 2 OF 9 ZCA COPYRIGHT 2007 ACS on STN
139:108452 Monoamine as additive for organic electroluminescent device emitting high-intensity yellow to red light. Tanaka, Hiroaki; Kanno, Masaki; Yagi, Tamao; Toba, Yasumasa (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2003201472 A2 20030718, 29 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-305258 20021021. PRIORITY: JP 2001-328710 20011026.

AB Claimed is the monoamine Ar1NR1R2 [Ar1 = (substituted) perylenyl; R1-2 = (substituted) monovalent aliph.- or arom. hydrocarbyl, (substituted) monovalent aliph.- or arom. heterocycle; at least one of R1-2 = -Ar2X1Ar3; Ar2 = (substituted) divalent arom.- hydrocarbyl or heterocycle; Ar3 = (substituted) monovalent arom.- hydrocarbyl or heterocycle; X1 = direct bond, O, S, :C(R3)R4, :Si(R5)R6; R3-6 = H, (substituted) monovalent aliph. or arom. hydrocarbyl; Ar1 and R1, Ar1 and R2, and/or R1 and R2 may form a ring]. An org. electroluminescent device comprises the amine in an org. layer, preferably in a light-emitting layer. The device shows long service life.

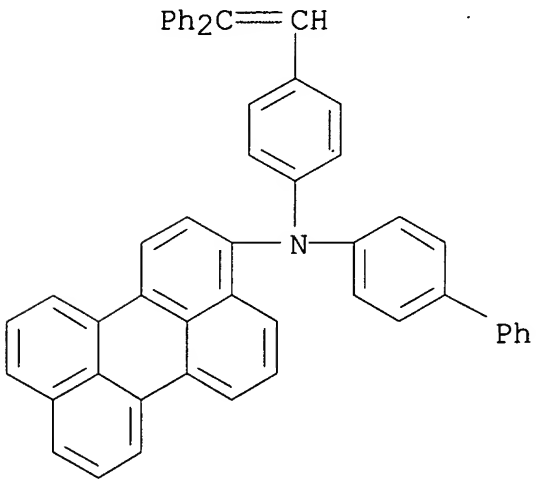
IT **558453-94-4 558454-09-4**
(org. electroluminescent device emitting high-intensity yellow to red light contg. perylenyl **arom. amine** in org. layer)

RN 558453-94-4 ZCA

CN 3-Perylenamine, N-phenyl-N-[4-(4-pyrenyl)phenyl]- (9CI) (CA INDEX NAME)



RN 558454-09-4 ZCA
CN 3-Perylenamine, N-[1,1'-biphenyl]-4-yl-N-[4-(2,2-diphenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS C07C211-61; C07C217-80; C07C217-92; C07C323-37; C07D213-74; C07D215-38; C07D333-20; C07D333-36; C07D333-58; C07F007-10; H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
ST org electroluminescent device additive perylenyl **arom** **amine**
IT **Amines, uses**
(**arom**. perylenyl; org. electroluminescent device emitting high-intensity yellow to red light contg. perylenyl **arom**. **amine** in org. layer)
IT Electroluminescent devices
(org.; org. electroluminescent device emitting high-intensity yellow to red light contg. perylenyl **arom**.

amine in org. layer)

IT 92-66-0, 4-Bromobiphenyl 20492-13-1, 3-Aminoperylene 106475-19-8
(in prepn. of perylenyl **arom. amine** as additive for org. electroluminescent device emitting high-intensity yellow to red light)

IT 536761-34-9P 558453-80-8P
(org. electroluminescent device emitting high-intensity yellow to red light contg. perylenyl **arom. amine** in org. layer)

IT 536761-35-0 536761-36-1 558453-78-4 558453-79-5 558453-81-9
558453-82-0 558453-83-1 558453-84-2 558453-85-3 558453-86-4
558453-87-5 558453-88-6 558453-89-7 558453-90-0 558453-91-1
558453-92-2 558453-93-3 **558453-94-4** 558453-95-5
558453-96-6 558453-97-7 558453-98-8 558453-99-9 558454-00-5
558454-01-6 558454-02-7 558454-03-8 558454-04-9 558454-05-0
558454-06-1 558454-07-2 558454-08-3 **558454-09-4**
558454-10-7 558454-11-8 558454-12-9 558454-13-0 558454-14-1
(org. electroluminescent device emitting high-intensity yellow to red light contg. perylenyl **arom. amine** in org. layer)

L37 ANSWER 3 OF 9 ZCA COPYRIGHT 2007 ACS on STN

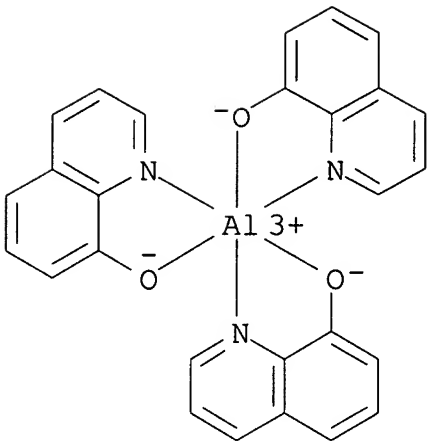
139:28484 Composite for organic electroluminescent device comprising perylene and diketopyrrolopyrrole derivatives. Onikubo, Toshikazu; Oryu, Yoshitake; Amano, Masaomi; Maki, Shinichiro; Yanai, Hiroyuki; Yagi, Tadao (Toyo Ink Mfg. Co., Ltd., Japan). PCT Int. Appl. WO 2003048268 A1 20030612, 75 pp. DESIGNATED STATES: W: CN, JP, KR, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR. (Japanese). CODEN: PIXXD2. APPLICATION: WO 2002-JP12592 20021202. PRIORITY: JP 2001-368036 20011203; JP 2002-18009 20020128.

AB The invention refers to an org. electroluminescent device comprising a perylene deriv. and a diketopyrrolopyrrole deriv. The device may also contain a compd. having a fluorescence peak > 550 nm, and 5% of another compd. relative to the first having a fluorescence spectrum 500 - 800 nm wherein the region > 600 nm is < 20% of the entire spectrum.

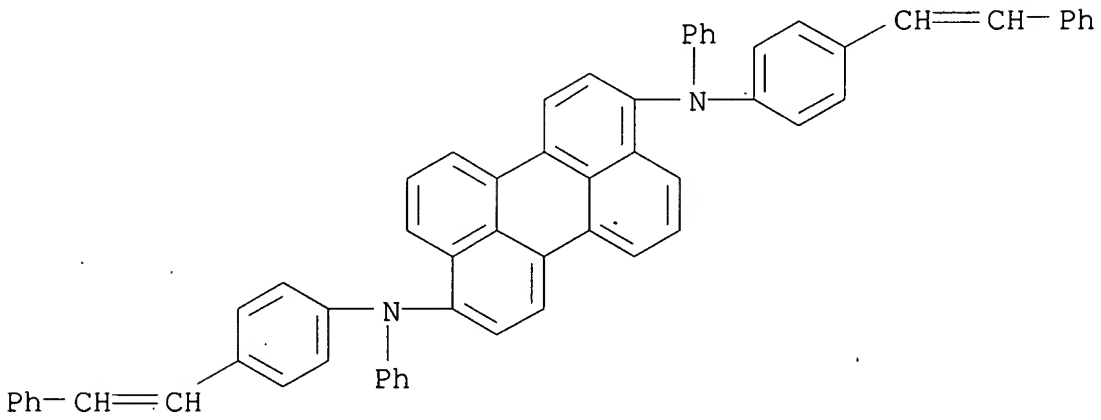
IT **2085-33-8**, Aluminum tris(8-hydroxy quinolinato)
278174-15-5 519180-49-5
(composite for org. electroluminescent device comprising perylene and diketopyrrolopyrrole derivs.)

RN 2085-33-8 ZCA

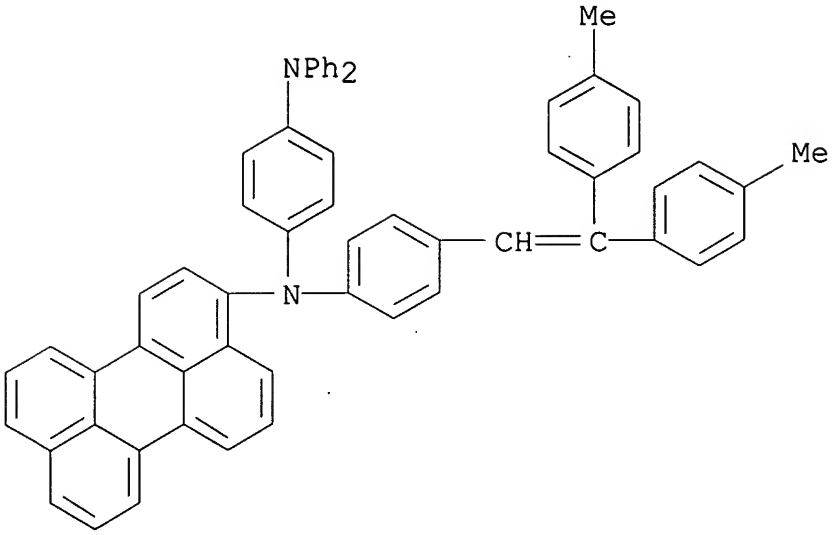
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)



RN 278174-15-5 ZCA
CN 3,9-Perylenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



RN 519180-49-5 ZCA
CN 1,4-Benzenediamine, N-[4-[2,2-bis(4-methylphenyl)ethenyl]phenyl]-N-3-perylenyl-N',N'-diphenyl- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
ICS H05B033-14

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 517-51-1, Rubrene **2085-33-8**, Aluminum tris(8-hydroxy quinolinato) 2669-65-0 17904-86-8 123174-58-3 177580-90-4
200052-70-6 227009-36-1 227010-23-3 252756-13-1
278174-15-5 331678-08-1 378792-65-5 384343-49-1
384343-78-6 384343-79-7 384362-75-8 474067-56-6 488134-89-0
519180-16-6 519180-18-8 519180-22-4 519180-24-6 519180-26-8
519180-35-9 519180-37-1 519180-38-2 519180-42-8 519180-48-4
519180-49-5 519180-53-1 532952-64-0 532952-65-1
532952-67-3 532952-68-4 536761-33-8 536761-34-9 536761-35-0
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536761-82-7 536761-83-8 536761-84-9 536761-85-0 536761-86-1
536761-87-2 536761-88-3 536761-89-4 536761-90-7 536761-93-0
536761-94-1 537032-97-6
(composite for org. electroluminescent device comprising perylene and diketopyrrolopyrrole derivs.)

L37 ANSWER 4 OF 9 ZCA COPYRIGHT 2007 ACS on STN

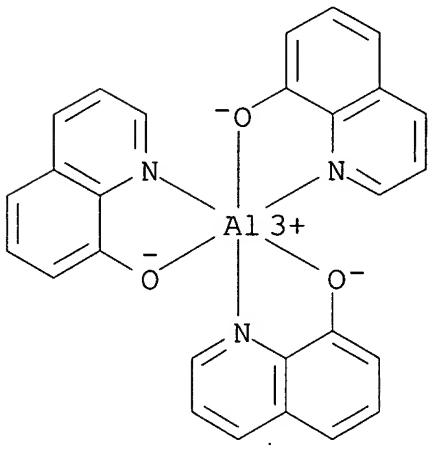
136:393041 Organic electroluminescent devices. Toguchi, Satoru; Ishikawa, Hitoshi; Tada, Hiroshi; Oda, Atsushi (Samsung Electronics Co., Ltd., Japan). U.S. Pat. Appl. Publ. US 2002058156 A1 20020516, 87 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-985657 20011105. PRIORITY: JP 2000-339603 20001107; JP 2000-339604 20001107; JP 2000-339605 20001107.

AB Org. electroluminescent devices comprising an anode; a cathode; and ≥1 org. thin film layers including a light-emitting layer sandwiched between said anode and said cathode ADIW ≥1 org. thin film layer contains a compd. including an (un)substituted cyclohexylidenemethine group.

IT **2085-33-8**, Alq3
(org. electroluminescent devices employing cyclohexylidenemethine derivs.)

RN 2085-33-8 ZCA

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)

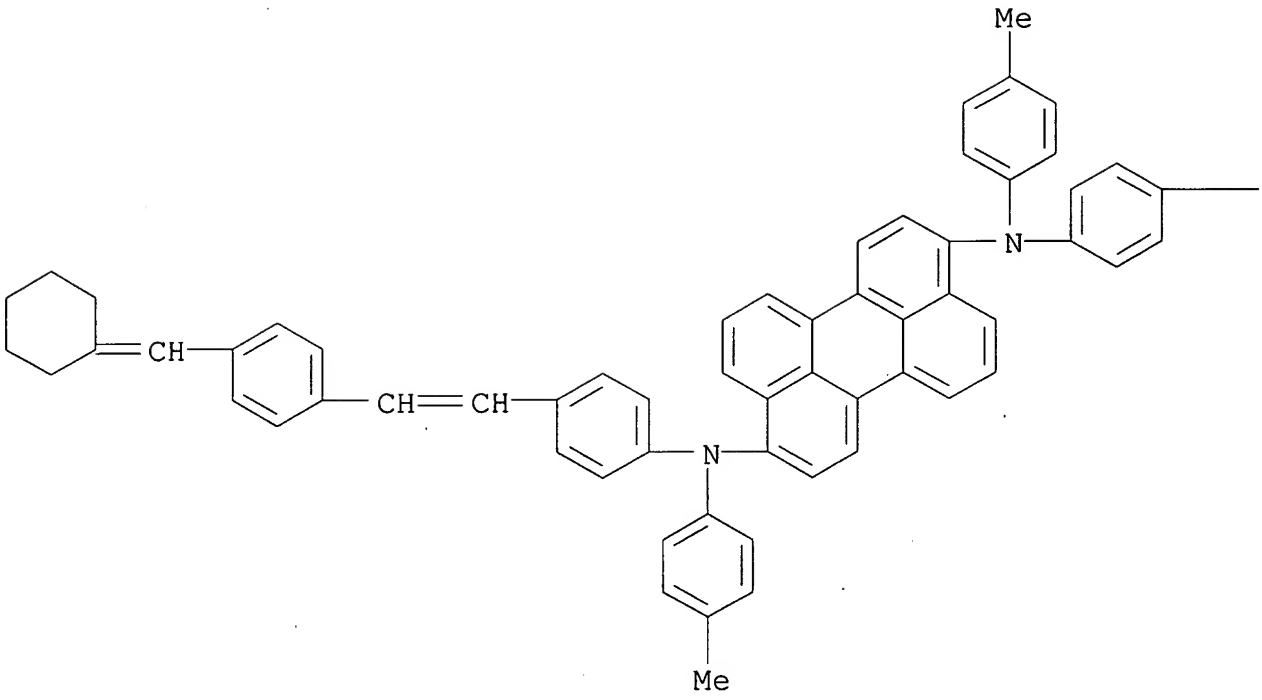


IT **426218-27-1P 426218-28-2P**
(org. electroluminescent devices employing cyclohexylidenemethine derivs.)

RN 426218-27-1 ZCA

CN 3,9-Perylenediamine, N,N'-bis[4-[2-[4-(cyclohexylidenemethyl)phenyl] ethenyl]phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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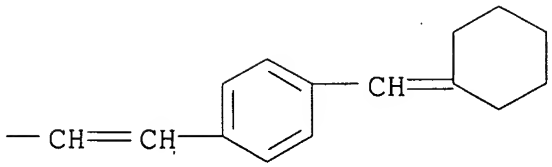
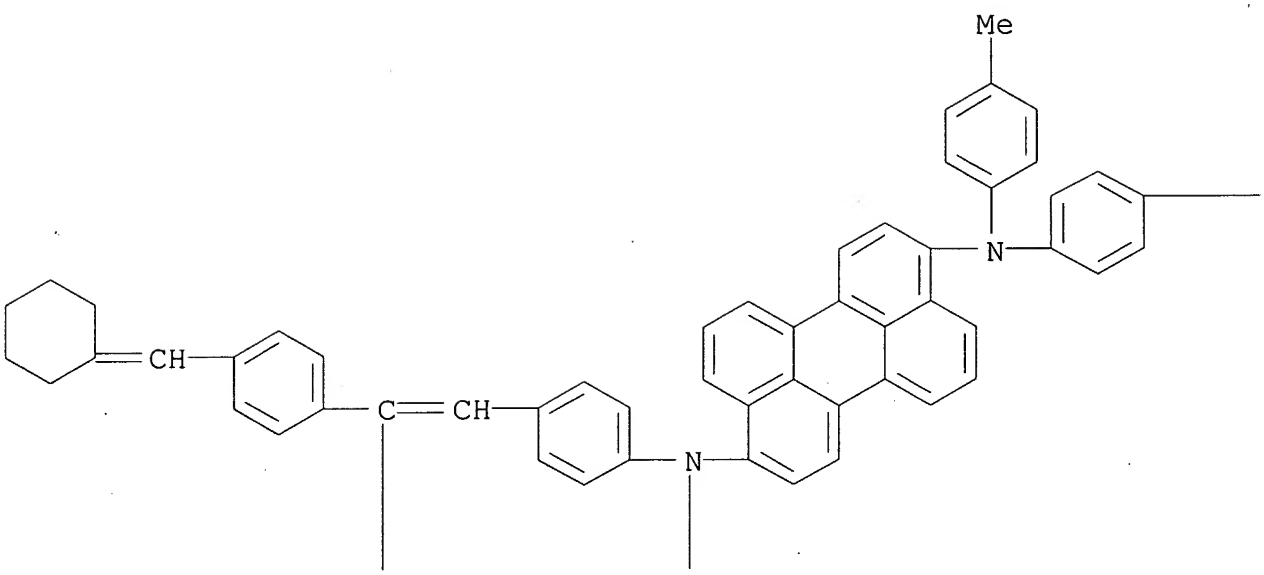
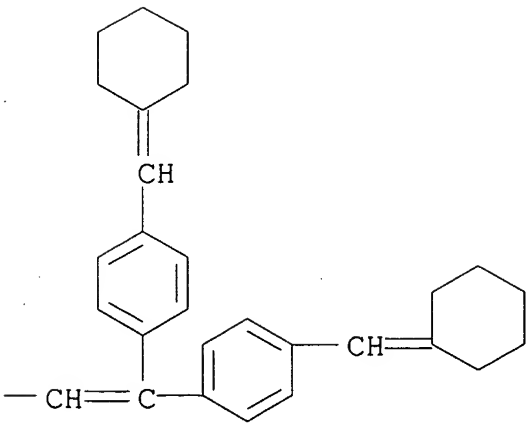


RN 426218-28-2 ZCA
CN 3,9-Perylenediamine, N,N'-bis[4-[2,2-bis[4-(cyclohexylidenemethyl)phenyl]ethenyl]phenyl]-N,N'-bis(4-methylphenyl)- (9CI) (CA INDEX NAME)

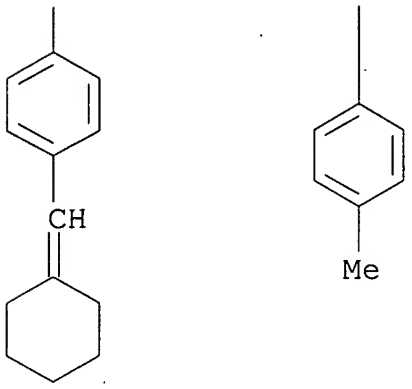
PAGE 1-A



PAGE 1-B



PAGE 2-A



IC H05B033-12
INCL 428690000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 25, 76
IT **2085-33-8**, Alq3 15082-28-7, 2-(4-Biphenylyl)-5-(4-t-butylphenyl)-1,3,4-oxadiazole 37271-44-6 50926-11-9, ITO 61843-06-9 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine 123847-85-8 150405-69-9 163226-12-8 181367-28-2 194214-31-8 194794-43-9 227939-49-3 426218-62-4 426218-63-5
(org. electroluminescent devices employing cyclohexylidenemethine derivs.)
IT 426218-12-4P 426218-13-5P 426218-14-6P 426218-15-7P
426218-16-8P 426218-17-9P 426218-18-0P 426218-19-1P
426218-20-4P 426218-21-5P 426218-22-6P 426218-23-7P
426218-24-8P 426218-25-9P 426218-26-0P **426218-27-1P**
426218-28-2P 426218-30-6P 426218-31-7P 426218-32-8P
426218-33-9P 426218-34-0P 426218-35-1P 426218-36-2P
426218-37-3P 426218-38-4P 426218-40-8P 426218-41-9P
426218-42-0P 426218-44-2P 426218-46-4P 426218-47-5P
426218-49-7P 426218-50-0P 426218-52-2P 426218-53-3P
426218-54-4P 426218-55-5P 426218-56-6P 426218-59-9P
426218-60-2P 426218-61-3P 426252-99-5P 426253-00-1P
426253-01-2P
(org. electroluminescent devices employing cyclohexylidenemethine derivs.)

L37 ANSWER 5 OF 9 ZCA COPYRIGHT 2007 ACS on STN
135:114277 Organic electroluminescent device. Ishikawa, Hitoshi; Higashiguchi, Itaru; Tada, Hiroshi; Morioka, Yukiko; Oda, Atsushi (NEC Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2001196180 A2 20010719, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP

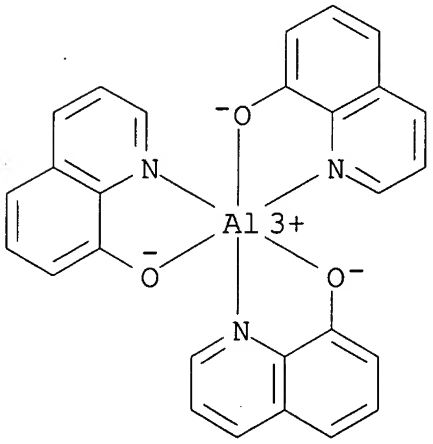
2000-3436 20000112.

AB The invention relates to an org. electroluminescent device comprising an electroluminescent layer contg. an arom. hydrocarbon represented by Ar1-Ar2 [Ar1 = naphthyl, anthracenyl, perylenyl, benzoperylenyl and dibenzoperylenyl groups; and Ar2 = perylenyl, benzoperylenyl, and dibenzoperylenyl groups].

IT **2085-33-8**, al 8q **350509-86-3 350509-87-4 350509-89-6**
(org. electroluminescent device)

RN 2085-33-8 ZCA

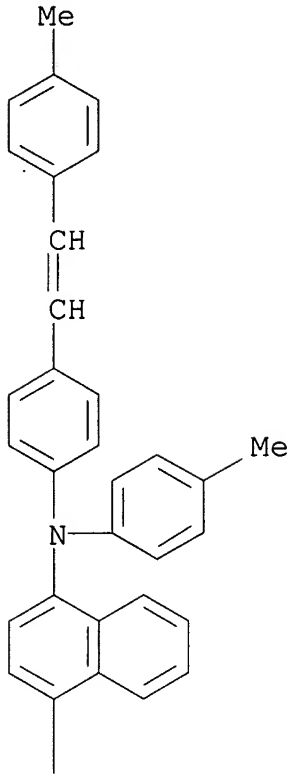
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)



RN 350509-86-3 ZCA

CN 1-Naphthalenamine, N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]-4-(3-perylenyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



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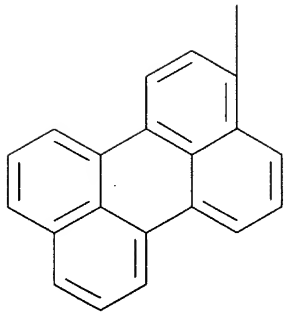
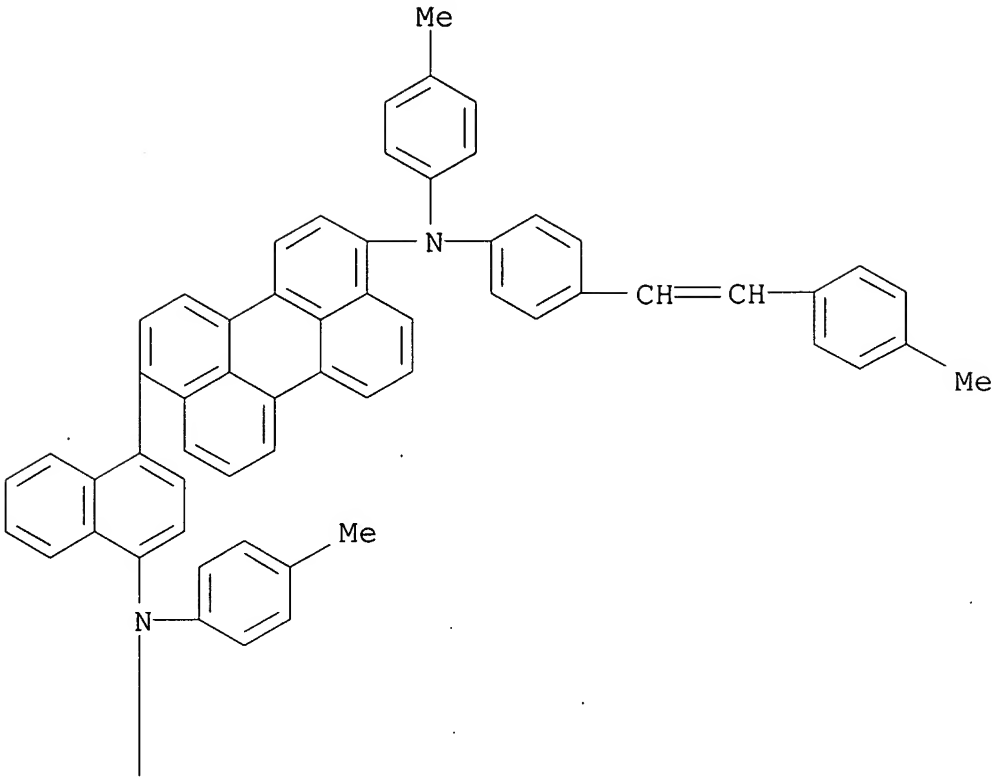


RN 350509-87-4 ZCA
CN 3-Perylenamine, N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]-10-[4-[(4-methylphenyl)[4-[2-(4-methylphenyl)ethenyl]phenyl]amino]-1-naphthalenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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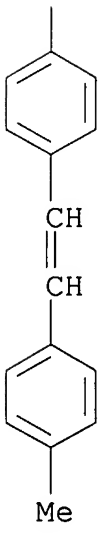
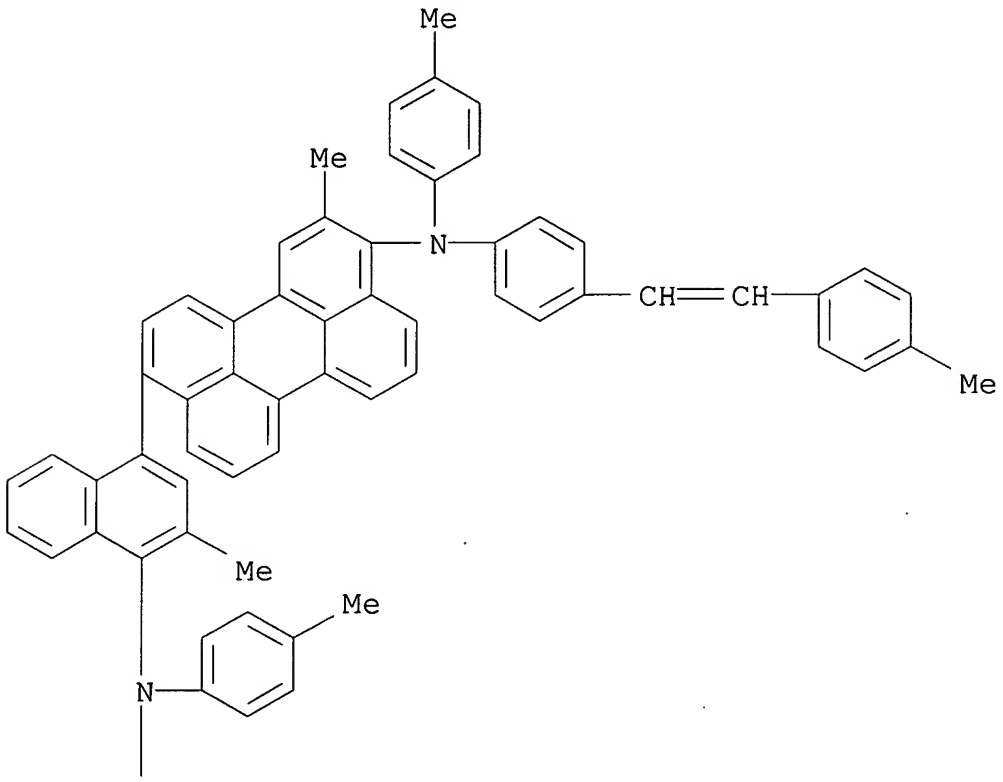
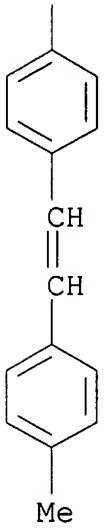


RN 350509-89-6 ZCA
CN 3-Perylenamine, 2-methyl-10-[3-methyl-4-[(4-methylphenyl)[4-[2-(4-methylphenyl)ethenyl]phenyl]amino]-1-naphthalenyl]-N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM H05B033-14
ICS C09K011-06; H05B033-22; C23C014-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT 198-55-0D, Perylene, derivs. **2085-33-8**, al 8q
11057-45-7D, Benzoperylene, derivs. 15082-28-7 37271-44-6
50926-11-9, ITO 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-[1,1'-biphenyl]-4,4'-diamine 123847-85-8, N,N'-Diphenyl-N,N'-bis(1-naphthyl)-1,1'-biphenyl-4,4'-diamine 138372-67-5 181367-28-2
194214-31-8 194794-43-9 227939-49-3 **350509-86-3**
350509-87-4 350509-89-6 350509-90-9
350509-91-0 350509-93-2
(org. electroluminescent device)

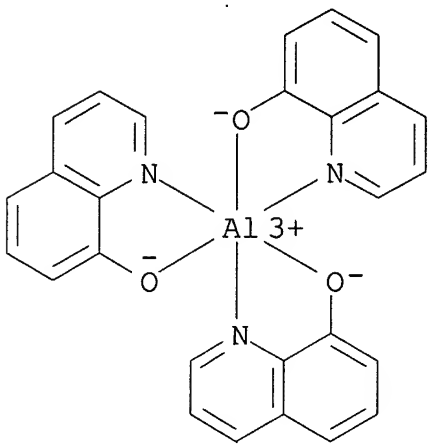
L37 ANSWER 6 OF 9 ZCA COPYRIGHT 2007 ACS on STN
134:123381 Organic electroluminescent device and method for fabricating same. Morioka, Yukiko; Oda, Atsushi; Ishikawa, Hitoshi; Toguchi, Satoru; Tada, Hiroshi (Nec Corp., Japan). Eur. Pat. Appl. EP 1069628 A2 20010117, 38 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-115313 20000714. PRIORITY: JP 1999-200279 19990714; JP 1999-204317 19990719.
AB Methods for fabricating org. electroluminescent devices are described which entail irradiating an anode with UV light (100-200 nm); forming ≥1 org. layer adjacent to the anode; and forming a cathode on the org. layer. Org. electroluminescent devices in which the anode was irradiated with UV light are also described.

Preferably, the org. materials in contact with the anodes comprise arylamine derivs.

IT **2085-33-8**, Tris(8-hydroxyquinolinato)aluminum
282535-70-0
(org. electroluminescent devices with UV-irradiated anodes and their fabrication)

RN 2085-33-8 ZCA

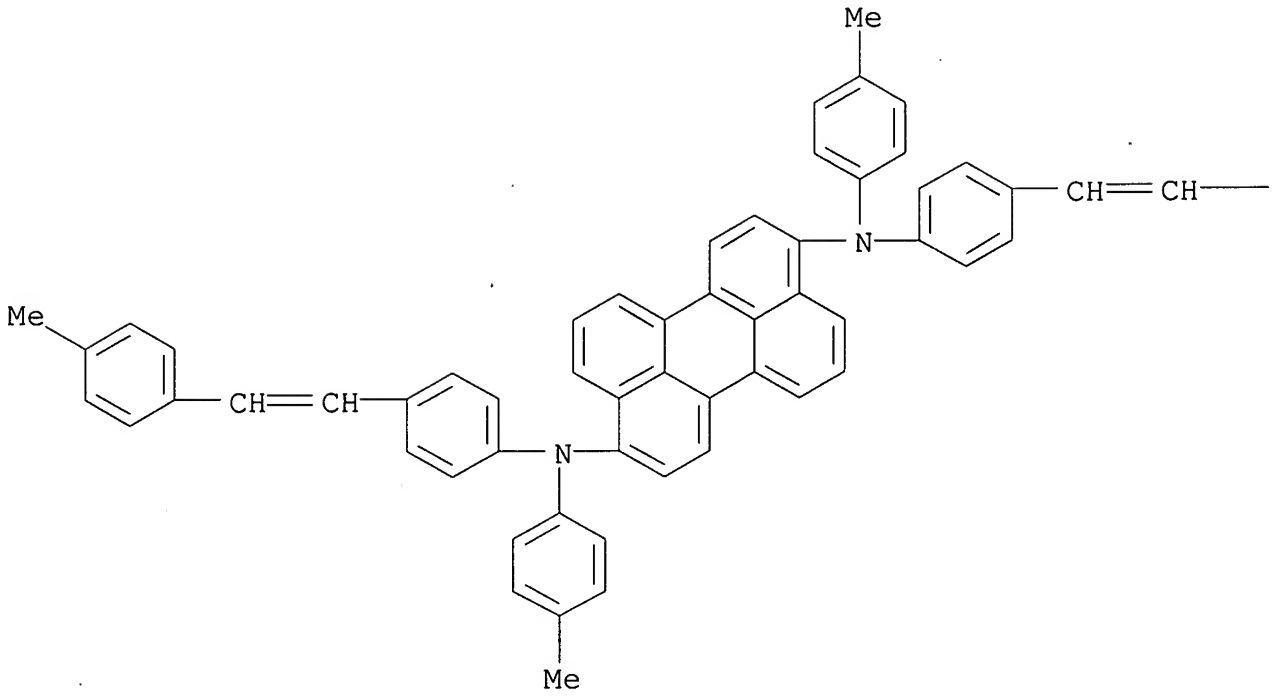
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)



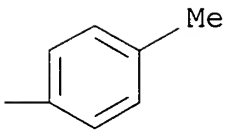
RN 282535-70-0 ZCA

CN 3,9-Perylenediamine, N,N'-bis(4-methylphenyl)-N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



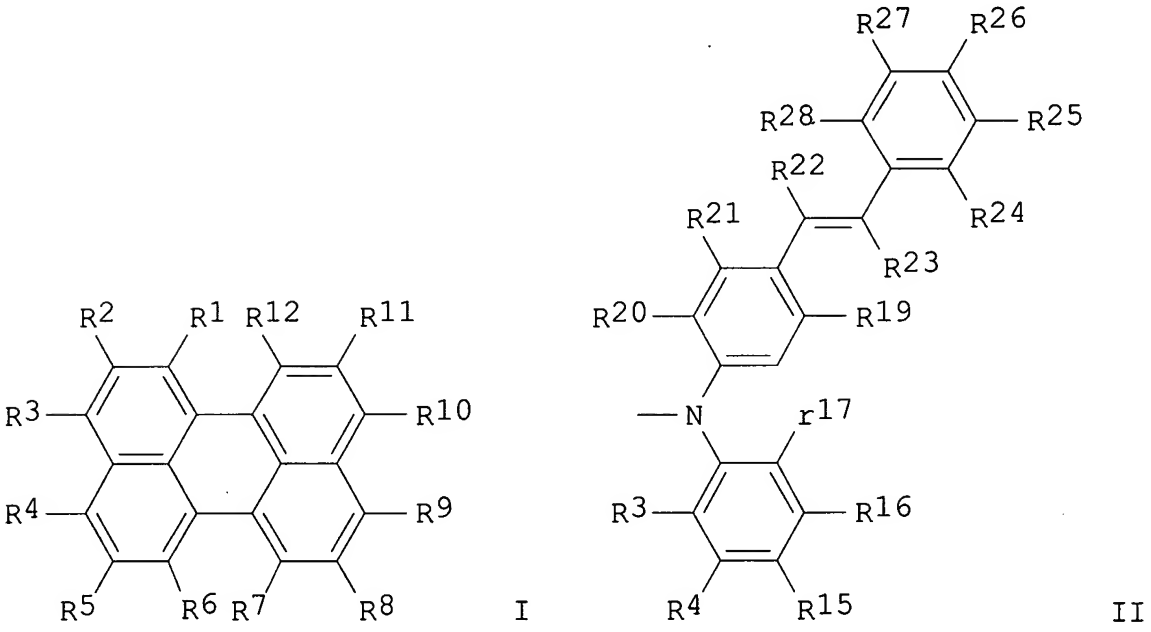
PAGE 1-B



IC ICM H01L051-20
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
IT **2085-33-8**, Tris(8-hydroxyquinolinato)aluminum 37271-44-6 50926-11-9, Indium tin oxide 123847-85-8, N,N'-Diphenyl-N,N'-bis(1-naphthyl)-1,1'-biphenyl-4,4'-diamine 146162-49-4 146162-54-1 181367-28-2 188049-37-8 221453-37-8 227939-49-3 252644-43-2 265120-80-7 265120-97-6 **282535-70-0** 320717-38-2
(org. electroluminescent devices with UV-irradiated anodes and

their fabrication)

L37 ANSWER 7 OF 9 ZCA COPYRIGHT 2007 ACS on STN
133:81379 Organic electroluminescent devices. Touguchi, Itaru; Ishikawa, Hitoshi; Morioka, Yukiko; Oda, Atsushi (Nec Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2000182771 A2 20000630, 18 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-357822 19981216.
GI



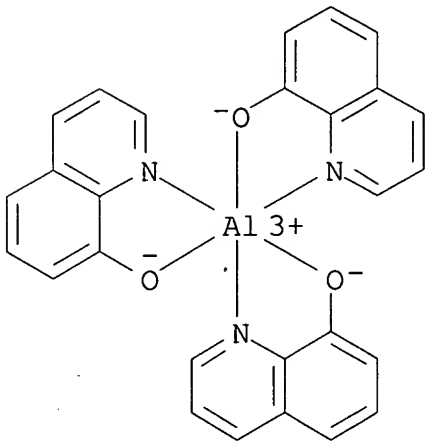
AB The devices comprise a phosphor, an electron transport and/or a hole transport layer comprising a perylene deriv. I, II (R1-12 = H, halo, hydroxyl, (substituted) amino, nitro, cyano, (substituted) alkyl, (substituted) alkenyl, (substituted) cycloalkyl, (substituted) alkoxy, (substituted) arom. hydrocarbon, (substituted) arom. heterocyclic, (substituted) aralkyl, (substituted) aryloxy; R13-23 = H, halo, hydroxyl, (substituted) amino excluding diarylamino, nitro, cyano, (substituted) alkyl, (substituted) alkenyl, (substituted) alkoxy, (substituted) arom. hydrocarbon, (substituted) arom. heterocyclic, (substituted) aralkyl, (substituted) aryloxy, (substituted) alkoxycarbonyl, (substituted) styryl, carboxyl; R24-28 = H, halo, hydroxyl, NAr1Ar2; Ar1,2 = C6-20 (substituted) aryl; nitro, cyano, (substituted) alkyl, (substituted) alkenyl, (substituted) cycloalkyl, (substituted) alkoxy, (substituted) arom. hydrocarbon, (substituted) arom. heterocyclic, (substituted)

aralkyl, (substituted) aryloxy, (substituted) alkoxycarbonyl, carboxyl).

IT **2085-33-8**, Tris(8-quinolinolato)aluminum **265120-90-9** **278174-15-5** **278174-16-6** **278174-17-7** **278174-18-8**
(org. electroluminescent devices contg. perylene deriv.)

RN 2085-33-8 ZCA

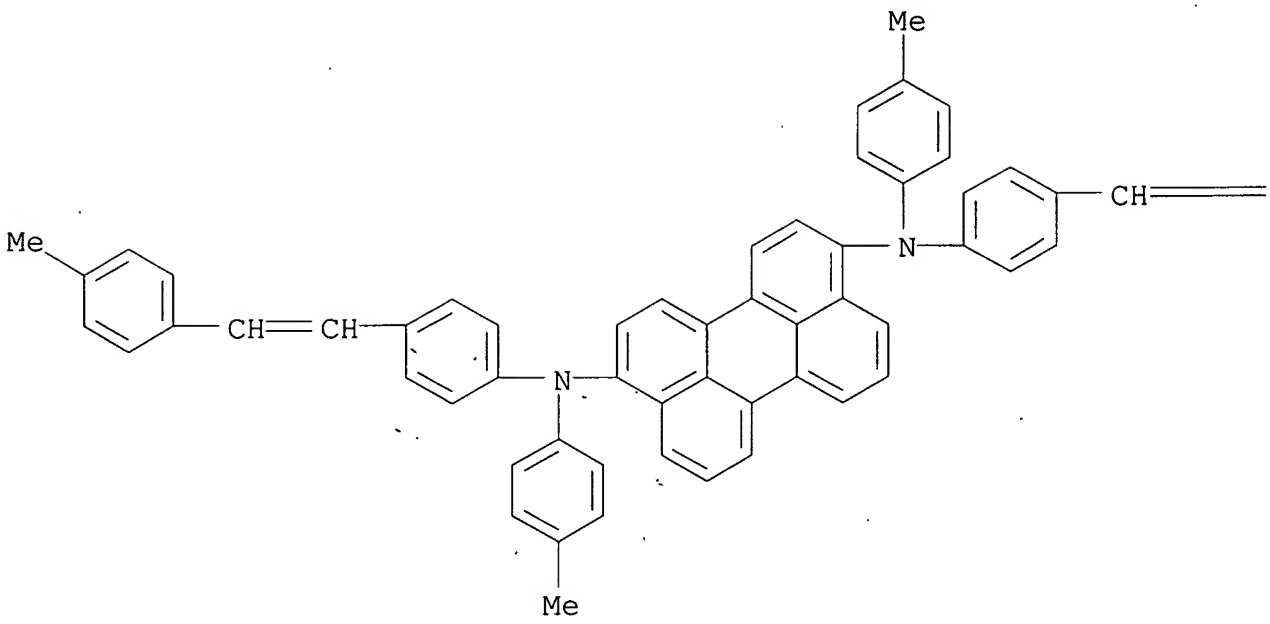
CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)



RN 265120-90-9 ZCA

CN 3,10-Perylenediamine, N,N'-bis(4-methylphenyl)-N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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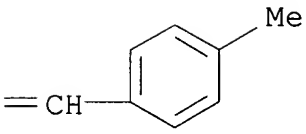
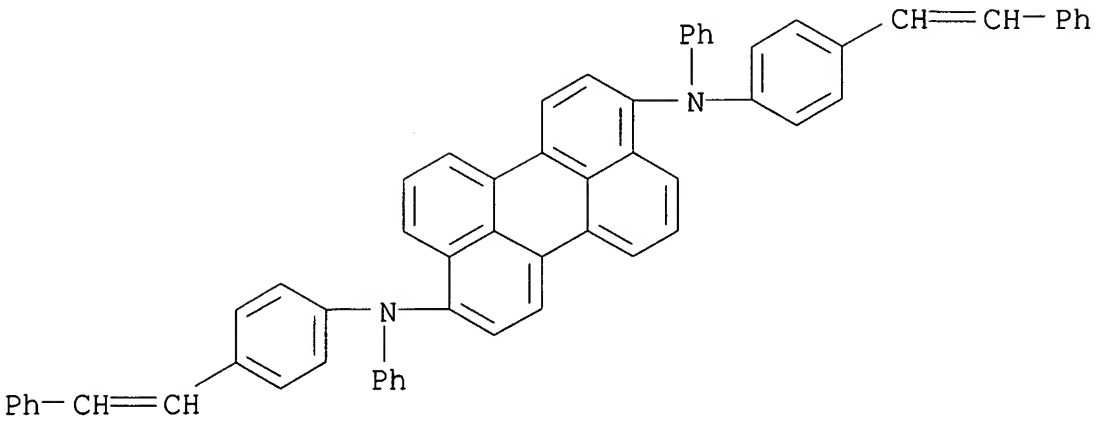
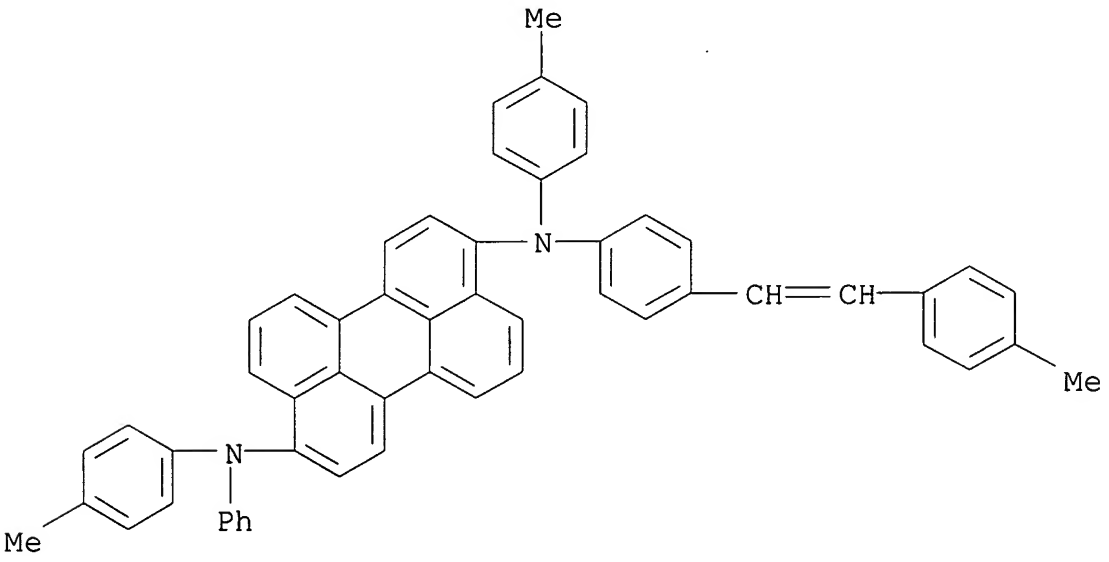


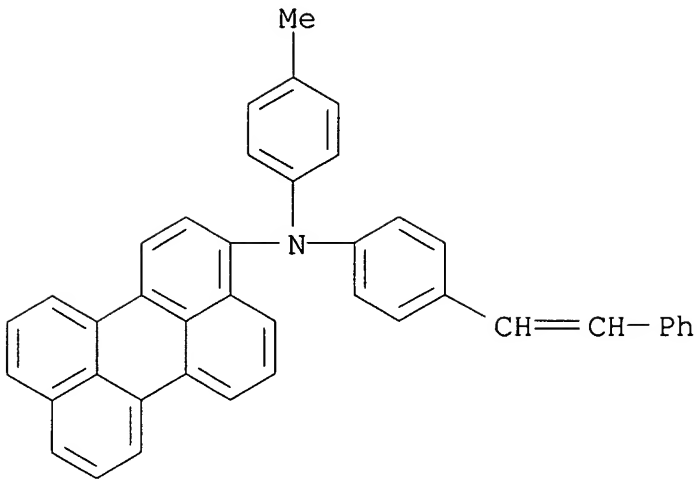
RN 278174-15-5 ZCA
CN 3,9-Perylenediamine, N,N'-diphenyl-N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



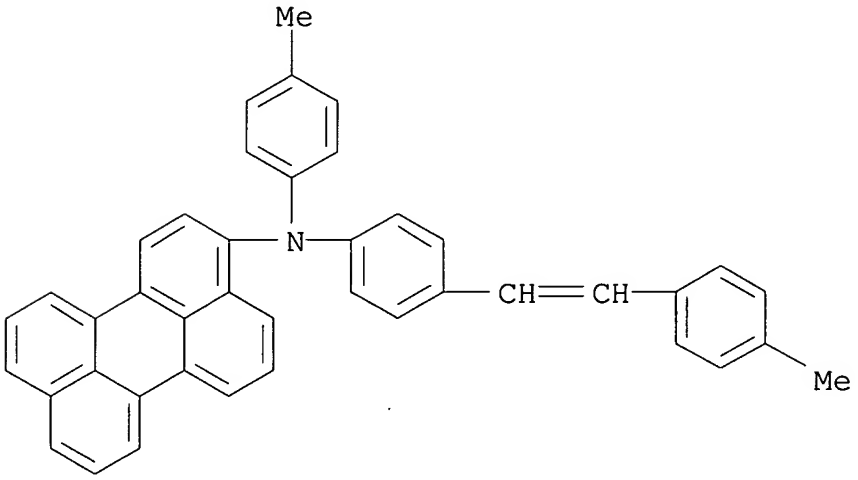
RN 278174-16-6 ZCA
CN 3,9-Perylenediamine, N,N'-bis(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]-N'-phenyl- (9CI) (CA INDEX NAME)



RN 278174-17-7 ZCA
CN 3-Perylenamine, N-(4-methylphenyl)-N-[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



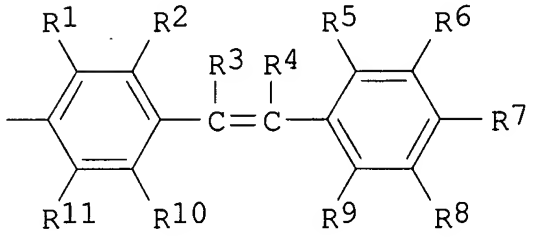
RN 278174-18-8 ZCA
CN 3-Perylenamine, N-(4-methylphenyl)-N-[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)



IC ICM H05B033-14
ICS C09K011-06; H05B033-22
CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
IT **2085-33-8**, Tris(8-quinolinolato)aluminum 15082-28-7 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-(1,1'-biphenyl)-4,4'-diamine 123847-85-8 138372-67-5 **265120-90-9** **278174-15-5 278174-16-6 278174-17-7** **278174-18-8**
(org. electroluminescent devices contg. perylene deriv.)

L37 ANSWER 8 OF 9 ZCA COPYRIGHT 2007 ACS on STN
132:315621 Organic electroluminescent device using hole-injectable, light-emitting material. Oda, Atsushi; Ishikawa, Hitoshi; Toguchi, Satoru; Morioka, Yukiko (NEC Corporation, Japan; Samsung SDI Co., Ltd.). Eur. Pat. Appl. EP 996177 A2 20000426, 28 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1999-121184 19991022. PRIORITY: JP 1998-302547 19981023.

GI



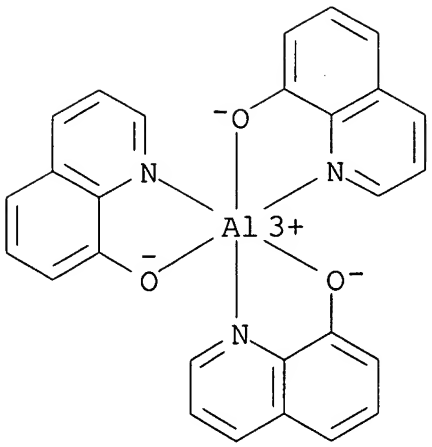
I

AB Org. electroluminescent device comprising at least an anode, an org. light-emitting zone which consists of ≥1 org. thin-film layers, and a cathode are described in which the org. light-emitting zone is adjacent to the anode, and a layer contacting the anode in the light-emitting zone contains, either singly or as a mixt., a compd. represented by the general formula Ar2-N(Ar3)-Ar1-N(Ar4)-Ar5 (Ar1 = an (un)substituted arylene group 5-42 carbons, Ar2-5 = independently selected (un)substituted C6-20 aryl groups; ≥1 of Ar2-5 = styrylphenyl represented by the general formula I; and R1-11 = independently selected H, halo, (un)substituted amino (excluding diarylamino), OH, cyano, nitro, C1-6 alkyl, C1-6 alkoxy group, (un)substituted C6-18 aryl, and (un)substituted C6-18 aryloxy groups).

IT **2085-33-8**, Tris(8-hydroxyquinolinato)aluminum
265120-86-3 265120-90-9 265120-91-0
265120-92-1
(org. electroluminescent devices using styrylamino group-contg. diarylaminoarylenes)

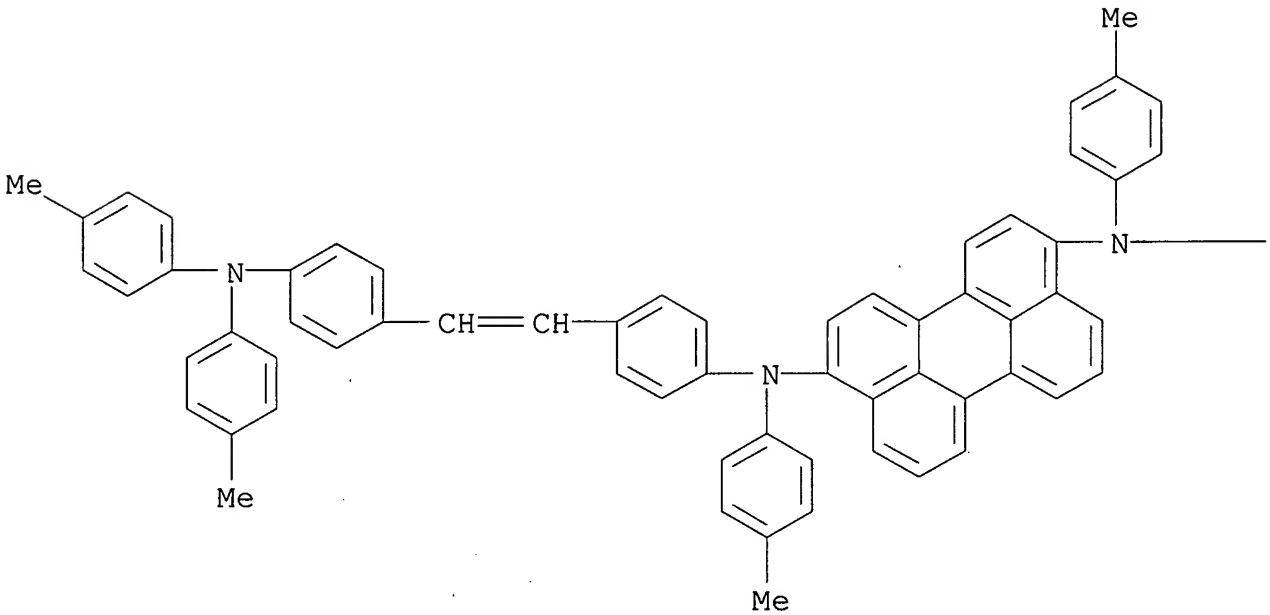
RN 2085-33-8 ZCA

CN Aluminum, tris(8-quinolinolato-κN1,κO8)- (9CI) (CA INDEX NAME)

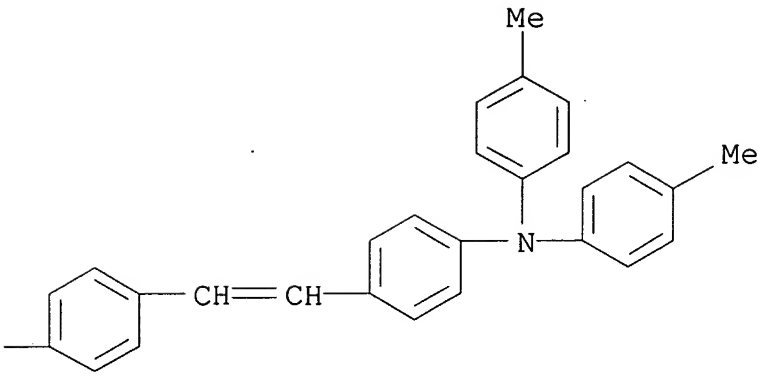


RN 265120-86-3 ZCA
CN 3,10-Perylenediamine, N,N'-bis[4-[2-[4-[bis(4-methylphenyl)amino]phenyl]ethenyl]phenyl]-N,N'-bis(4-methylphenyl)-(9CI) (CA INDEX NAME)

PAGE 1-A

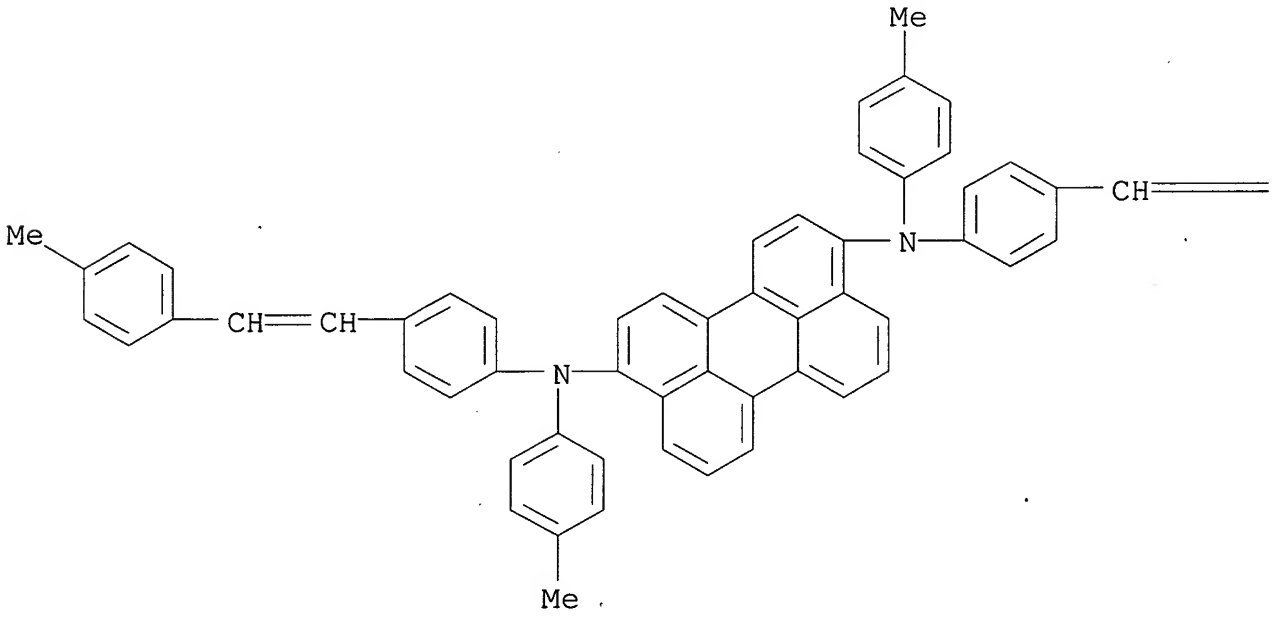


PAGE 1-B

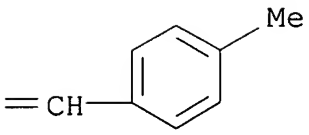


RN 265120-90-9 ZCA
CN 3,10-Perylenediamine, N,N'-bis(4-methylphenyl)-N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A

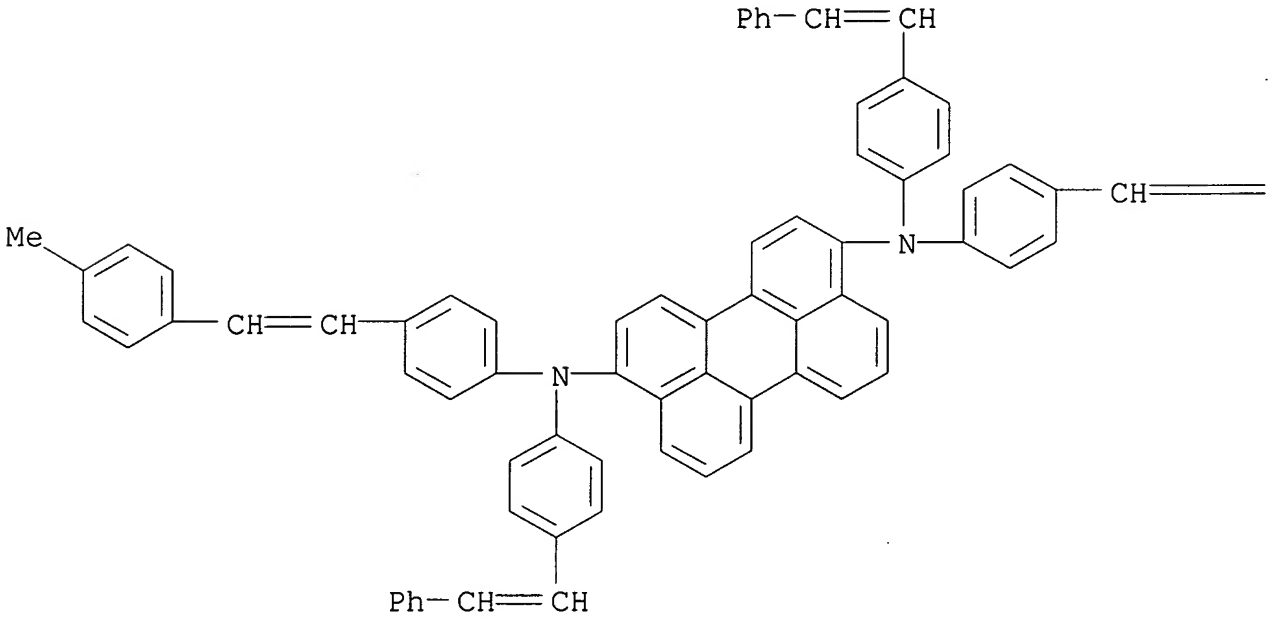


PAGE 1-B

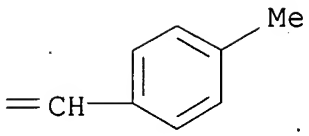


RN 265120-91-0 ZCA
CN 3,10-Perylenediamine, N,N'-bis[4-[2-(4-methylphenyl)ethenyl]phenyl]-N,N'-bis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)

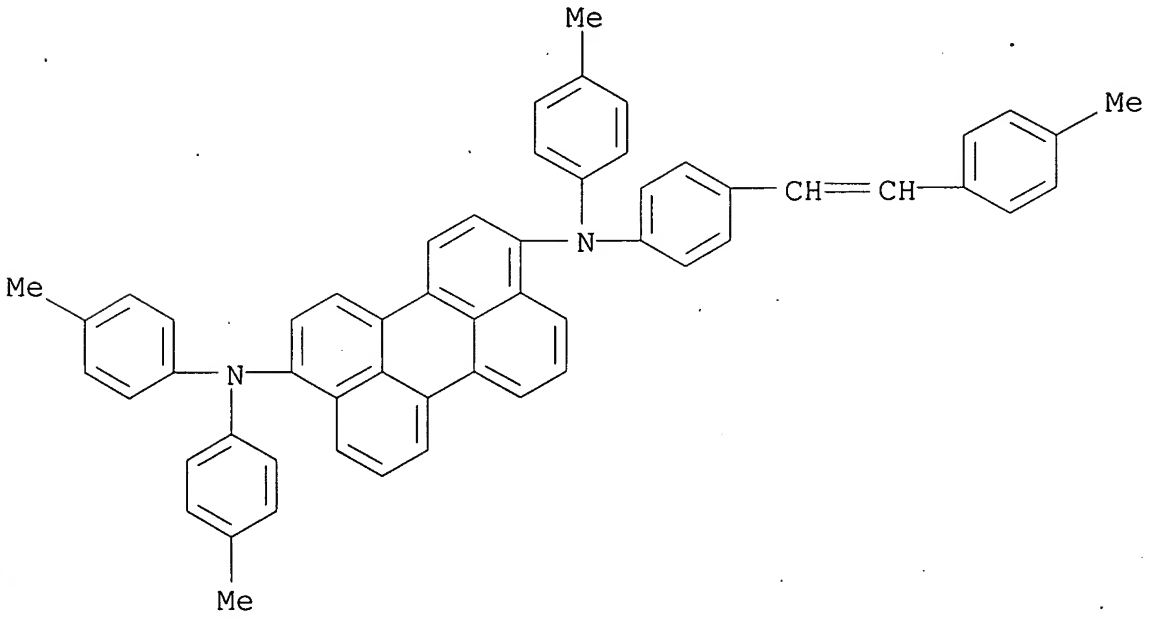
PAGE 1-A



PAGE 1-B



RN 265120-92-1 ZCA
CN 3,10-Perylenediamine, N,N,N'-tris(4-methylphenyl)-N'-[4-[2-(4-methylphenyl)ethenyl]phenyl]- (9CI) (CA INDEX NAME)



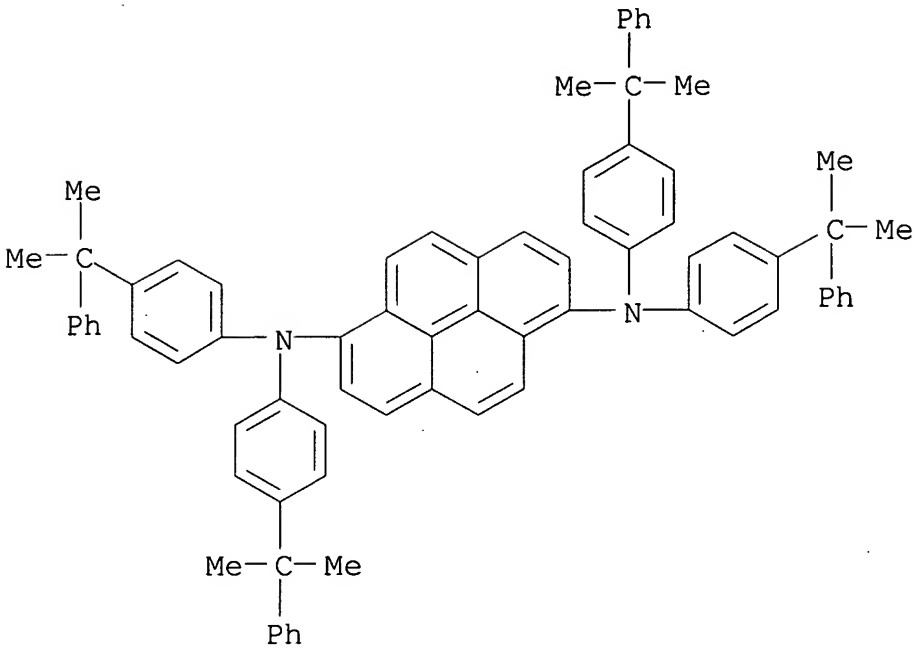
IC ICM H01L051-20
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
IT **2085-33-8**, Tris(8-hydroxyquinolinato)aluminum 15082-28-7
37271-44-6 38215-36-0 50926-11-9, Indium tin oxide 138372-67-5
142289-08-5 146162-49-4 146162-54-1 150405-69-9 186409-20-1
221453-36-7 221453-37-8 221453-38-9 221453-40-3 227010-25-5
247585-27-9 252644-43-2 252645-38-8 259143-64-1 264126-81-0
265120-80-7 265120-81-8 265120-82-9 265120-83-0 265120-84-1
265120-85-2 **265120-86-3** 265120-87-4 265120-88-5
265120-89-6 **265120-90-9** **265120-91-0**
265120-92-1 265120-93-2 265120-94-3 265120-95-4

265120-96-5 265120-97-6 265120-98-7 265120-99-8 265121-00-4
(org. electroluminescent devices using styrylamino group-contg. diarylaminoarylenes)

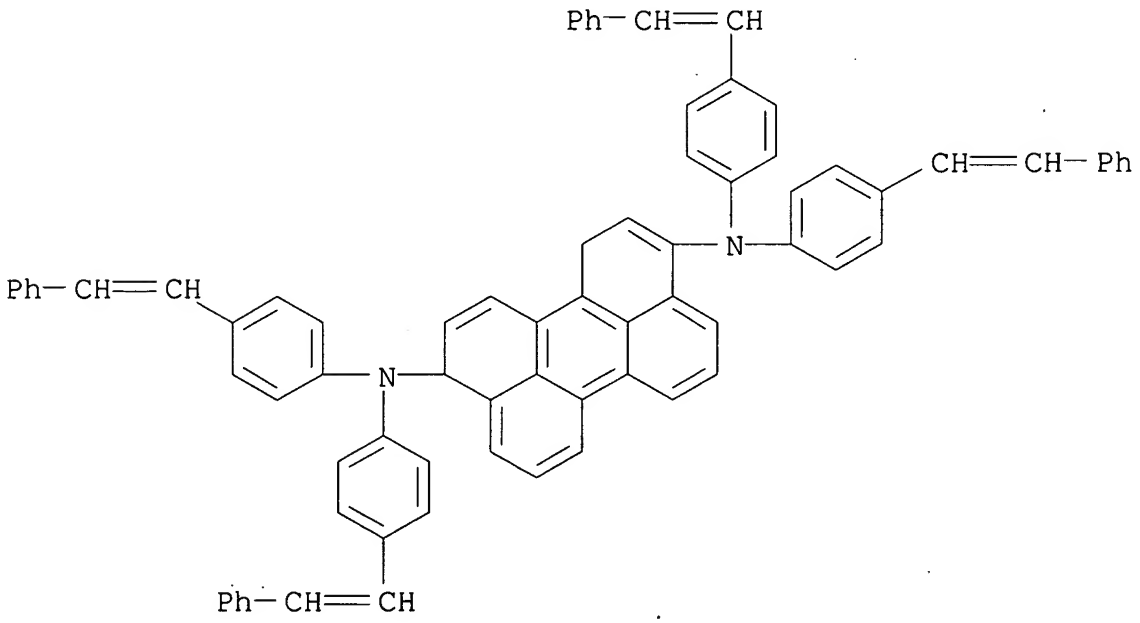
L37 ANSWER 9 OF 9 ZCA COPYRIGHT 2007 ACS on STN
129:295965 Organic electroluminescent device with high luminance and polycyclic phosphorescent compound therefor. Onikubo, Shunichi; Tamano, Michiko; Okutsu, Satoshi; Enokida, Toshio (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10251633 A2 19980922 Heisei, 59 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-62568 19970317.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The claimed compd. is I [A = arom. (condensed) ring, (condensed) heterocycle excluding Q1 (E = H or linkage), bivalent group comprising ≥2 kinds of 2-10 above ring systems which are connected directly or via O, N, S, C1-20 chain, nonarom. cycle, where the case of A = Q3 is excluded; Ar1-4 = (condensed) arom. group; X1-4 = O, S, CO, SO2, CxH2xOCyH2y (x, y = 0-20; x + y ≠ 0), C2-20 alkyl(id)ene, bivalent alicyclic group; R1-20 = H, halo, alkyl (oxy), arom. ring, **arom**. heterocycle, **amino**]. Also claimed is an org. electroluminescent device contg. I with high luminance and good stability in repeated uses.
IT **213968-46-8 213968-48-0**
(luminescent material; org. electroluminescent device contg. polycyclic phosphorescent compd. with high luminance)
RN 213968-46-8 ZCA
CN 1,6-Pyrenediamine, N,N,N',N'-tetrakis[4-(1-methyl-1-phenylethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 213968-48-0 ZCA
CN 3,10-Perylenediamine, 1,10-dihydro-N,N,N',N'-tetrakis[4-(2-phenylethenyl)phenyl]- (9CI) (CA INDEX NAME)



IC ICM C09K011-06
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related

Properties)
Section cross-reference(s): 25

IT 205697-02-5 213968-34-4 213968-36-6 213968-38-8 213968-40-2
213968-41-3 213968-42-4 213968-43-5 213968-44-6 213968-45-7
213968-46-8 213968-47-9 **213968-48-0**
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213968-54-8 213968-55-9 213968-56-0 213968-57-1 213968-58-2
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213968-75-3 213968-76-4 213968-77-5 213968-79-7 213968-80-0
213968-81-1 213968-82-2 213968-83-3 213968-85-5 213968-86-6
213968-87-7 213968-88-8 213968-89-9 213968-91-3 213968-92-4
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213969-13-2 213969-14-3 213969-15-4 213969-16-5 213969-17-6
213969-18-7 213969-19-8 213969-20-1 213969-21-2 213969-22-3
213969-23-4
(luminescent material; org. electroluminescent device contg. polycyclic phosphorescent compd. with high luminance)